The Ancestral Pueblo People of Bandelier

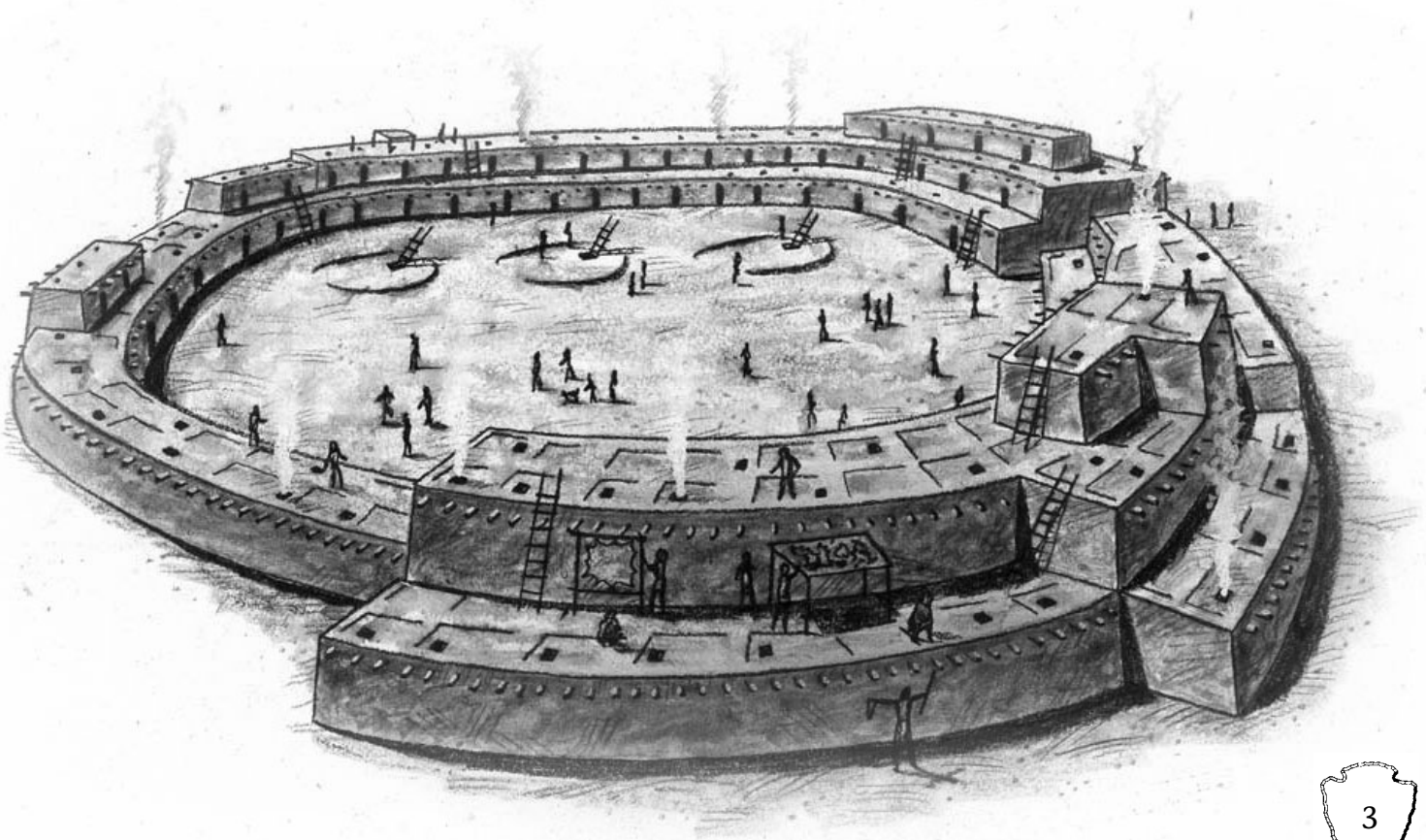
2006

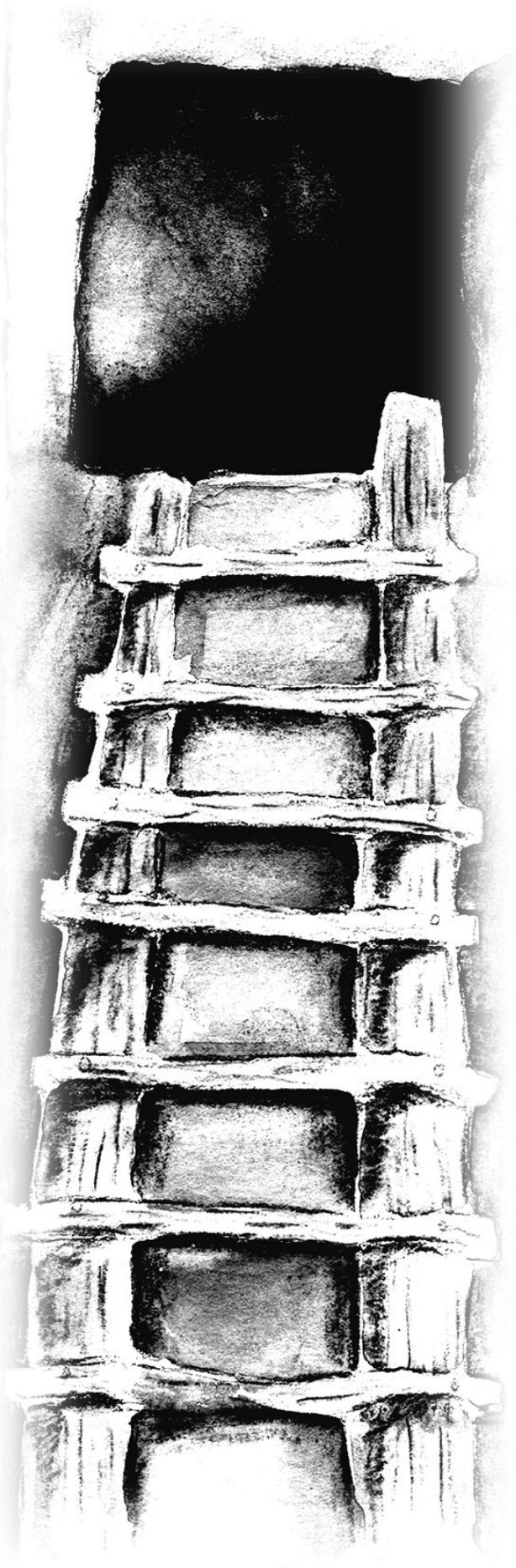
First Edition

A Guide for 4th Grade Teachers

Jemez mountains Explorer Guides

Unit 2
Classroom Activities





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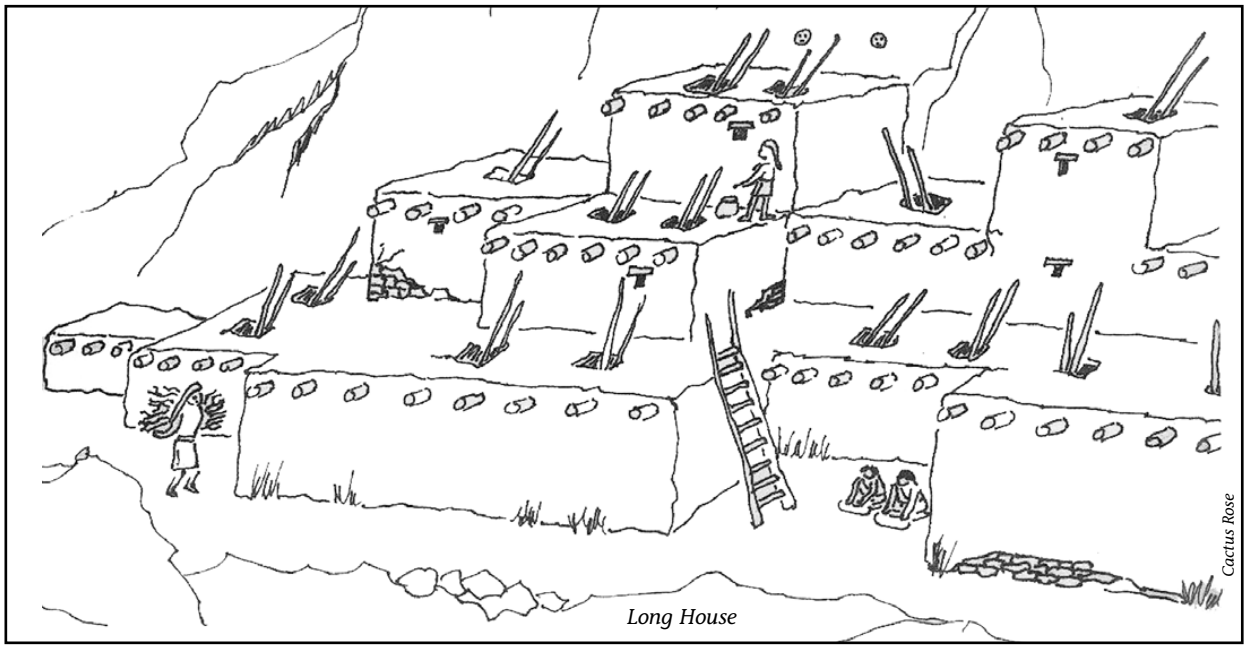

Long House

About a million years ago, a huge volcano erupted near Bandelier National Monument. Volcanic ash covered the land hundreds of feet thick. Thousands of years ago, hunters and gatherers began living here. Then about 900 years ago, Ancestral Pueblo people came. They lived in the canyons and on the mesas. They made homes and gardens. About 450 years ago they moved away but they didn' t go very far. Today their relatives live in pueblos nearby.

This newspaper lets you see into the lives of the Ancestral Pueblo people. They lived here a long time ago. But they are not strangers. You may have friends who are part of their family. Someday you may meet a Pueblo artist. Maybe he speaks the same language they spoke then. You might meet a Pueblo potter. Maybe she uses the same designs they used then. Or you might go to a pueblo on a feast day. The dances and songs are the ones they used then. We hope you will enjoy learning about the Ancestral Pueblo people. We hope you will like finding connections between long ago and now.

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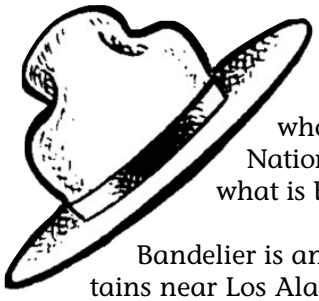
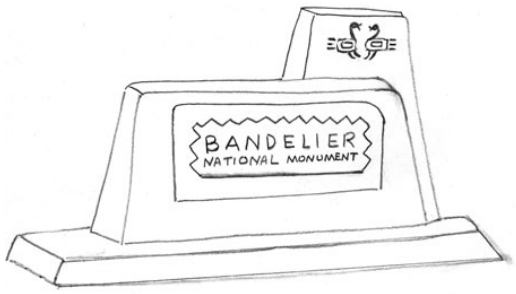
What is Bandelier National Monument?



These articles will tell you a lot about the people who lived at Bandelier National Monument. But what is Bandelier?

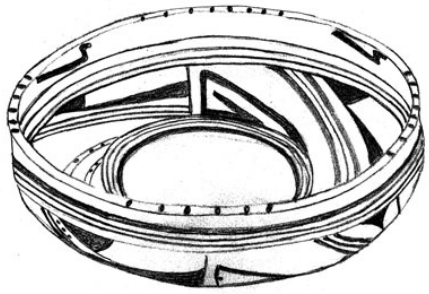
Bandelier is an area in the mountains near Los Alamos. Archeologists tell us that there are at least 3,000 sites where Ancestral Pueblo people used to live. Way back in 1916, people thought it was important to protect those sites. They made a law that the area would be a National Monument. That means that it belongs to everyone in the United States. It means that no one can steal or destroy things here. It will always be a place to come to learn and enjoy.



Chris Judson

Bandelier National Monument is one of many National Park sites throughout the United States. The National Park Service protects special places so that people from all over the world can enjoy these unique treasures.

In 1880 a man named Adolph Francis Alphonse Bandelier had come to New Mexico to learn all about the Pueblo people. He went to Cochiti Pueblo, between Santa Fe and Albuquerque. The Cochiti people took him to see where their ancestors used to live. It was a long hard hike to Frijoles Canyon. He thought it was very interesting and exciting.



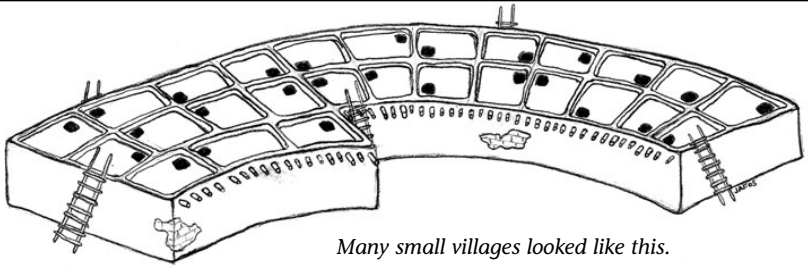
Chris Judson

Ancestral Pueblo people have known Bandelier as home for hundreds of years. Bandelier Black-on-Grey pottery AD 1400-1550

He said it was "the grandest thing I ever saw." Later he wrote a book about the Pueblo people who lived there. When the land all around Frijoles Canyon became a park, it was named for Adolph Bandelier.

The Arrowhead is the symbol of the National Park Service.

Now a road goes to the park. More than 300,000 people visit every year. There is a campground, and more than 70 miles of trails for hiking. The visitor center in Frijoles Canyon has a museum about the Pueblo people. Many kinds of animals, birds, and plants live on the mesas and in the canyons. The National Park Service manages Bandelier National Monument. Rangers take care of the park and help people learn about it. If all the visitors follow the rules, the park will stay exciting and interesting for a long, long time.



Jason Fenton

Many small villages looked like this.

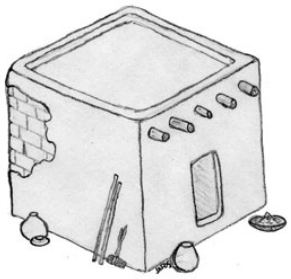
Pueblo People Today

NEWSPAPER

Pueblo people believe that with the help of different animals, we came up from a world below this one. The people then went on a long journey to find their homeland. As they walked they found many different landscapes. Some were cold and had ice and snow. Others were dry and hot. But the place they settled had a little of all the places they visited. The people were told to make the area we know as the Southwestern United States their home. So my people began to make homes on the mesas and in the canyons. Bandelier is only one of many Ancestral Pueblo areas.

There are nineteen pueblos in New Mexico. Many are located along the Rio Grande. The pueblos still continue the traditions of the Ancestral Pueblo people. Have you visited any of the pueblos? Have you been to any of the pueblo dances?

When the people left Bandelier they moved to various pueblos. We know this because the people still live in these places. The different dances, songs, stories and languages are still carried on today. The people still remember their ancestors. In New Mexico, there are nineteen pueblos. Among these pueblos, there are 5 languages spoken. They are Tiwa, Tewa, Towa, Keres and Zuni.
Many Pueblo people today are related to the people who lived in Bandelier. These pueblos include Cochiti, San Ildefonso, Santa Clara, San Felipe, Santo Domingo, and Zuni.
Bandelier is a very special place to the Pueblo people. We ask everyone to treat it with respect and care.



Jason Fenton

Pueblo people continue some of the building styles of their ancestors.

"Bandelier is important to me because my people originated here. I always feel like I am going home. It is a place to get in touch with the old ones. It is a place to connect with my ancestors. You can feel the spirits all around you. I think it is important to keep your ears open. To learn to listen to the old ones. I think that we as Pueblo people need to be willing to say, ' I am!' I am young and I am the next generation and we will continue the ways of our ancestors."
-Carlos Herrera, Cochiti Pueblo

Pueblo people continue many of the things our ancestors taught us. Languages, songs, dances,stories and ceremonies continue in the pueblos today. Knowledge of the native plants, growing crops and using the gifts of nature are still passed on to the younger people. Pottery is still made in the traditional way. Although Bandelier is not like it used to be in the 1200s, it is still important to the Pueblo people of today.

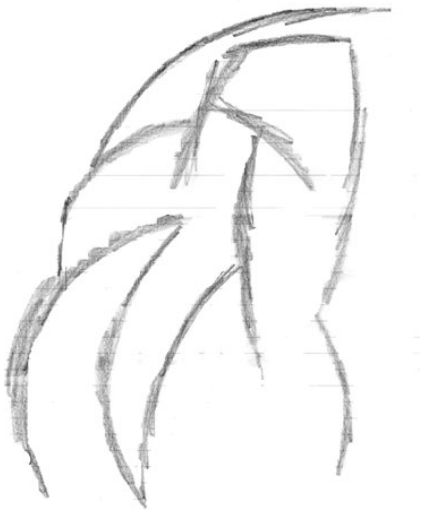
-Park Ranger Ceciliia Shields
Picuris Pueblo

Speaking with Respect and Understanding

NEWSPAPER

I grew up in a small pueblo. I am still learning the stories of my ancestors. As a Park Ranger at Bandelier National Monument, I feel connected to the ancient dwellings here. From all over the world people come and visit these special places. They come to learn and explore this beautiful place.

Thinking about the past, I think about how I am connected to these places.The people who lived here are my ancestors. We remember them and their ways. My grandmother told me many stories. She also taught me to make pottery. My mother taught me to make traditional foods. And my aunt taught me how to grind plants for medicine.



This is a drawing by 7-year-old, Lorenzen Gonzales, from San Ildefonso Pueblo. He is very interested in learning about his ancestors and about how they lived. Lorenzen loves to make abstract drawings. His mother, Melanie, paints designs on her pottery. Many of the symbols are passed on from Ancestral Pueblo people. They represent clouds, feathers, and lightning.

I love Bandelier. This place is very special to me. When I first came to Bandelier to work, my dad told me about the sites. He said that these are places that are to be respected. He said that a lot of people call them "ruins," but to Pueblo people they are not ruins. He says the old ones are still here. So I don' t call them "ruins," I call them archeological sites, structures or dwellings. I don't say they are "abandoned."

I learned a lot from my dad. I learned about how life was when he was young. I think that it is really amazing how smart our ancestors were. They built their homes to stand strong against rain and wind. They grew crops where there was not much water and they knew a lot about the movement of the sun, the moon and the stars. So when people use the word "primitive" or "prehistoric," I don' t think that is very true. I think they were very smart people.

One of my jobs as a Park Ranger is to give guided walks along the Main Loop Trail. Sometimes I talk with two people, other times I talk with as many as 60 people! I talk about the Ancestral Pueblo people and how they lived. I talk about how the people used the rocks and the plants. And I talk about how the Ancestral Pueblo people did not "disappear" or "vanish." We know where they went.

Well, oral tradition tells us that there were no longer enough resources for the people to survive. So they moved. Taking only what they could carry, they moved to the different Pueblos of today. The people that left Frijoles Canyon moved to Cochiti Pueblo. And their decendants are still there.

When I give guided walks, people ask many questions. One of the questions is, "Were these the Anasazi?" And I say, "Yes but that we don' t use that term here at Bandelier." The reason is that Anasazi comes from a Navajo word meaning "ancient enemies." For a long time Anasazi has been used by archeologists to talk about the people who lived here long ago. I am a Park Ranger and I am from a Pueblo. I feel really weird calling my own ancestors "ancient enemies," because they are not my enemies, they are my elders, my grandparents and my teachers. So when I talk about the people who lived in Bandelier and throughout the Southwest, I call them "Ancestral Pueblo people." I do this because it is more respectful.

Words are very important to Pueblo people, past and present. They are very powerful. I am happy to be part of this culture. I have always been taught to respect these special places and I hope you will too. I hope you will learn many new things. And I hope that you will share them with others.

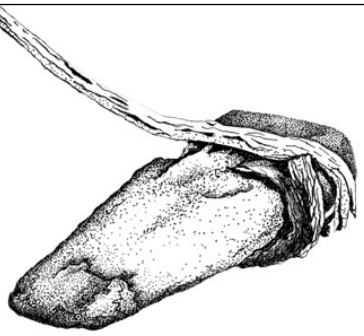
-Park Ranger Ceciliia Shields
Picuris Pueblo

Learning About People in the Past

Think about your own house. What if an archeologist of the future didn't know anything about the games we play today. What would she think if she found a pair of dice in what used to be your room? Maybe she would guess that it was for a game. But she could also guess that those little white cubes with dots were used to tell time. Or maybe she would think they were for a healing ritual for someone who was sick. To understand something, you need to know about the life of the person who used it. Otherwise you might end up making wild guesses.

Archeologists are scientists who have an interesting job. They ask questions about how people lived in the past. Even people hundreds or thousands of years ago.

Some questions are easy to answer. What did people eat? Did they make tools out of stone or wood? Did they live with lots of other people in big cities? An archeologist might answer questions like this by finding things. She might find the remains of a cooking fire, or old tools, or the walls of an old town.



Jeannie Hope Gibson

Ancestral Pueblo people often made tools by shaping stone and using wood for the handle.

Other questions are harder to answer. What did it sound like when they spoke to each other? What stories did they tell? What did they think about when they looked at the stars, or when they saw a special animal like a bear or an eagle?

To solve these mysteries of the past, archeologists need to look for clues. Some clues are objects that archeologists find when they explore an ancient town or home. In that case, the clues are called artifacts. An artifact can be something like a big stone that was used for grinding corn. It could be a piece of wood that held up the roof of a house. Or it could be a cooking pot, or an arrowhead.

A good archeologist can learn a lot from an artifact. Maybe she finds a knife that was made out of a sharp stone. She can look closely at the edge under a microscope and tell if the knife was used to cut plants or to cut meat. Sometimes she can even tell if the peron who used it was right-handed or left-handed! Archeologists can learn a lot from old things. But all by itself, an artifact can' t tell her everything.

The people who once lived in Bandelier are called the Ancestral Pueblo people. They are the ancestors of the Pueblo people who live in New Mexico today. Almost 500 years ago people left the old towns here in Bandelier. However, they only moved a few miles away. They built new homes along a big river called the Rio Grande. Their children lived there. The children of those children lived there. Through many generations the people have been living in the same towns on the banks of the Rio Grande. They remember a lot about what life was like in the old times. Pueblo people today still do things that their ancestors did many centuries ago.

The elders tell stories to the children. When those children become parents, they tell the same stories to their children. Pueblo people speak their traditional language and continue the ceremonies of their ancestors. These things are important for keeping their culture alive.

Maybe a wise old grandmother today makes a beautiful clay pot. She paints a design on it, and recognizes that same design on a pot from

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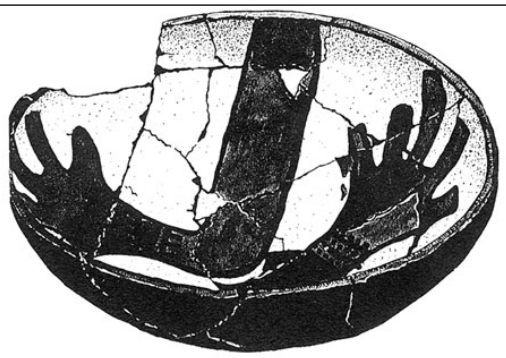


Jeannie Hope Gibson

Try to imagine who made this beautiful bowl and what the design means. Many types of designs were painted on pottery using paintbrushes made from yucca. Ancestral Pueblo Bowl, 1315-1425

long ago. Maybe a Pueblo man plants beans in a field. To help them grow he might say the same prayer that his great-great-grandfather said. An archeologist can learn a lot from the stories, memories and knowledge of Pueblo people. If she finds a big, flat, rock, she knows it was used for grinding corn. She learns that Pueblo people today remember how it was used. In fact, on certain special days, such as Feast Days, they still grind corn. And if the archeologist finds a big, circle-shaped room built down into the earth, she knows it is a kiva (KEE-vah). A kiva is a place for prayer, dancing and storytelling. Pueblo people today still go into kivas. They go there to pray, dance, and listen to the stories of their grandfathers and grandmothers.

Pabilita Velarde

Pueblo people continue to carry on the traditions of their ancestors such as the Buffalo Dance. It is a dance to honor the animals. Archeologists also learn from the Pueblo people today.

Bandelier has very old villages and cliff dwellings. You would enjoy walking there. What can you do to help preserve these special places? You might see the walls of an ancient home. They would crumble if someone walks on top of them. You will see the walls of an old cave room. It would be disrespectful for someone to carve their name or other graffiti there. Be sure you don' t do those things yourself. Stay on the trail as you walk and you' ll know that you aren' t damaging the old dwellings. Only climb where there are ladders. Don' t scratch the cliffs or cave walls.

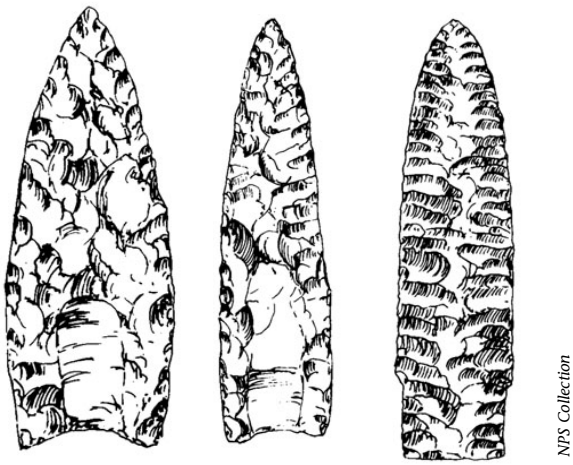
You can take good care of these fragile places and enjoy exploring too. If you see somebody climbing an ancient wall or carving graffiti into the rock, tell them to stop! Pueblo people care about the caves and villages where their ancestors lived. They ask park visitors to treat them with respect. It is a good feeling when you know you have done your part.

Volcanoes, Axes, and Arrowheads

NEWSPAPER

The Ancestral Pueblo people of Bandelier were always in contact with nature. In their daily lives this showed up in their ceremonies and what they ate. It was in the work they did. And it was part of how they used the many kinds of rocks available to them.

Bandelier is on the slopes of a very big volcano called the Valles Caldera (VY-yays call-DARE-uh). The volcano is so large that the bumps around its rim are the size of mountains! People call them the Jemez (HAY-mess) Mountains. Many kinds of rock erupted from this volcano. These rocks really helped the Ancestral Pueblo people. They built their houses from volcanic rocks. They farmed on volcanic soil and had sharp volcanic stones on their weapons. Archeologists call things made from stone "lithics."
The early people of Bandelier used a lot of lithics.



NPS Collection

Examples of spear points made of basalt and obsidian. Ancestral Pueblo people were skilled at working with the different stones available to them.

When the volcano erupted, flows of volcanic ash covered everything around it. These layers were hundreds of feet deep. The ash rock is called tuff. If you visit Bandelier, you will see that the Ancestral Pueblo people used tuff to build their homes. There are small natural caves in the tuff cliffs. The people enlarged them to make rooms. Along the base of the cliffs is a slope of loose chunks of tuff. The people shaped these stones to make bricks for their house walls.

The last time the volcano erupted, clouds of light, "frothy" lava came out. This kind of rock is called pumice. It traveled through the air and covered wide areas of land. Rain and snow washed a lot of it away. But in some places it still covers big areas on the tops of the mesas. The Ancestral Pueblo people discovered those are good places to farm. When it rains, the water soaks into the pumice layer. Plants have a better chance to grow.

In some places the tuff cooled slowly. It formed welded tuff. Welded tuff is harder and denser than the tuff the people used to build their homes. So they used pieces to cover the doors in the roofs of their houses. and also used it for the hearth stones by their fires.

The Ancestral Pueblo people had no metal. But they could make good weapons from stone. At first, they used a smooth, hard volcanic rock called basalt (buh-SALT). It made sharp points for arrows and spears. They didn' t have to walk too far to get this kind of basalt. It is hard to make basalt into really sharp weapons. The people found other kinds of stone they liked better. Their favorite was obsidian.

Obsidian is volcanic glass. It looks like regular glass, except it is usually black. It is a kind of lava that cools very quickly. The people had to walk much farther to get obsidian instead of basalt but it was worth it. Like glass, obsidian can be chipped to have a very thin, sharp edge. It is very good for making knives, scrapers, spearpoints, and arrowheads. People walked from far away to trade for the good obsidian from the Jemez Mountains.

Sometimes they used another rock, called Pedernal (PAY-der-nall) Chert, for points or knives. The pieces washed down the Rio Grande, from a mountain called Cerro Pedernal. It is over thirty miles away! Chert is colorful, often being white with red specks. It makes sharp, nice-looking tools. But not much was available, so obsidian was used more often.

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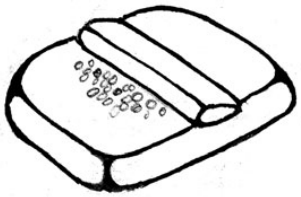
NPS Collection

Obsidian was used to make knives, spear points and scrapers.

Obsidian and chert are very good for sharp tools, but they are brittle. Tools like hammers and axes had to be made of something that wouldn' t shatter. Just down the canyon from Tyuonyi the people found another kind of basalt. It isn' t good for sharp edges yet it is strong and durable. They used this kind of basalt for manos and metates (MAH-nose and may-TAH-tays). They are stones used to grind corn. This basalt was good for other heavy-duty tools too, like hammers.



Chris Judson

Women ground corn on manos and metates. The meal that was ground was mixed with water and used as a flour to make corn cakes and other foods.

These are deer wrap moccasins, worn by women. A strip of deer skin is wrapped warmly around the legs. Today they are mostly worn for dances. They rubbed fine white clay into deerskin to make the women' s high white moccasins. Today, moccasins are still made white using the fine clay. The deerskin is wrapped warmly around the legs. They are usually worn for dances.

Drawing of Pueblo Woman by Theresa Kellywood, Moccasin Close-Up by Chris Judson

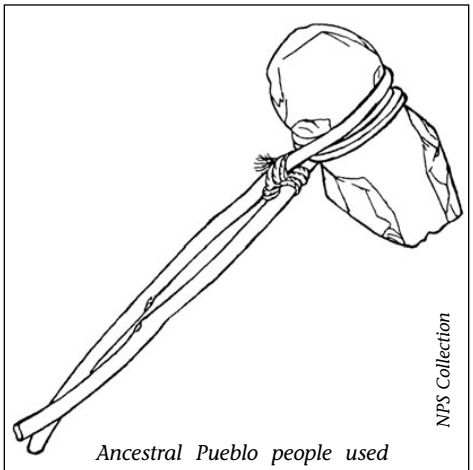
Sometimes they found big pebbles of granite in the Rio Grande. Granite is very hard and strong. The pebbles had washed down from the Sangre de Cristo Mountains, many miles away.

The people also used stones for jewelry, paint, pottery, and trade. Turquoise is a beautiful blue stone. People today still use it to make jewelry. The Ancestral Pueblo people at Bandelier got it by trade. It came from mines near the present town of Cerrillos, south of Santa Fe. For clay, every potter knew her favorite place to find just the right kind. They used colored clays for painting pottery and drawing pictographs. They also used them for body paint for the dancers during ceremonies. They rubbed fine white clay into deerskin to make the women' s high white moccasins.

Chris Judson

Turquoise is a soft blue stone used to make beautiful jewelry.

The Ancestral Pueblo people depended on the land for everything they needed. They knew where to find many kinds of stones and they knew how to use them. When you visit Bandelier you can see the caves, houses, weapons, and tools they made. Pueblo people still use stones today.



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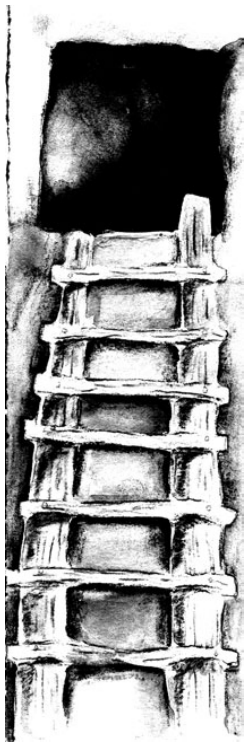
Ancestral Pueblo people used basalt to make stone tools. Can you imagine what hard work it was to make these tools?

Building Homes in Frijoles Canyon

Ancestral Pueblo people in Bandelier built their homes of stone. Bandelier is on the slopes of a huge volcano. It erupted over a million years ago and covered the land for miles around with volcanic ash. The ash became soft rock called tuff. Ancestral Pueblo people settled there thousands of years later. They used the tuff to build their homes. They didn' t have bulldozers, cranes, or electric drills for building. In fact, the Ancestral Pueblo people didn' t have electricity, motors, or even metal. Work was all done by hand using strong tools made of stone, wood, and animal bones.



Aaron Trotter

Entry into homes was by ladders made of wood.

To build their homes, there were pieces of tuff at the base of the cliffs. The people cut these pieces to the right size for bricks. Then they used the stone bricks to build their houses. First they stacked the bricks to form walls then used mud mortar to hold them together. Roofs were made of long pine logs, branches, and mud. Walls were then coated with mud plaster. The houses were square, with a flat roof. Many houses in New Mexico today look like that. Some houses were built in the bottom of the canyon. Some were along the base of the cliffs, and others had small caves for back rooms. There were also rooms which were kivas (KEE-vahs).

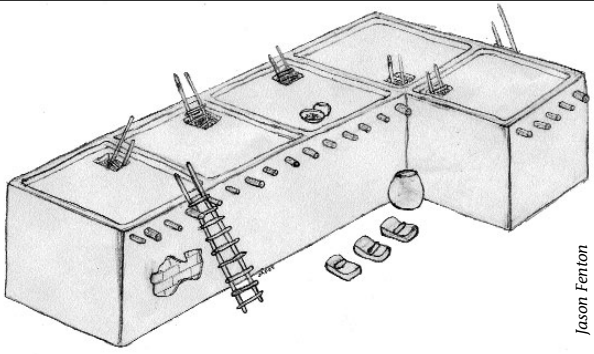
Kivas

A kiva is a special room like a church, a school, and a meeting place all in one. Kivas are still very important to Pueblo people today.

Most kivas were round and built underground. To go in you used a ladder through a hole in the middle of the flat roof. The smoke also went out through that hole. Vigas (VEE-gahs) are long beams which held up the roof.

Latillas (luh-TEE-uhs) are branches from aspen and cottonwood trees that went over the beams. Then there was a layer of mats. On the top was a thick layer of mud. In the kiva a small fire made heat and light. They made a ventilator shaft to bring in fresh air. It looks like a chimney, but air came in instead of smoke going out.

Usually kiva floors were plastered smooth with clay. Many have a hole carved into the floor. In books it is usually called by the Hopi word sipapu (SEE-pah-poo). In Frijoles Canyon people spoke the Keres (CARE-ayz) language. In Keres the hole is called a sipah (SEE-pah). It is a symbol of the Pueblo creation story. Many Pueblo groups tell that, long ago, they came up from an underworld. They came up through an opening called the sipapu. In this world they were told to migrate until they found the "center place." It would be the place that was just right for them to live. (continued)



Jason Fenton

This is an example of an Ancestral Pueblo home. Entry was often through the roof and then down a ladder. Walls were plastered with mud. Vigas supported the roof. Many villages stood two or three stories high!

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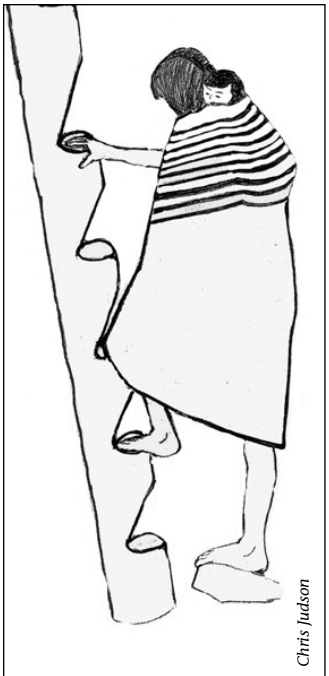


Chris Judson

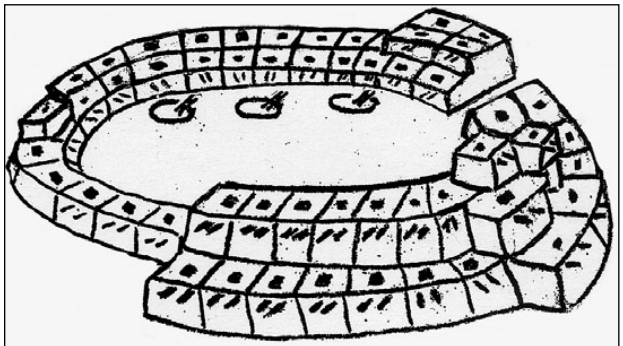
Ladders were made in different styles. This one was made by carving notches into a wooden pole. Women often wrapped small children in warm cotton blankets and tied them to their backs to do daily chores and also to climb up ladders to their homes.

Villages With Plazas

On the bottom of Frijoles Canyon is an old village, Tyuonyi (chew-OWN-yee). Many houses were built next to each other with an open space, called a plaza, in the middle. The house walls were tuff bricks. They were covered with plaster. The roofs were made of vigas and latillas, just like the kiva roof. Tyuonyi had about 400 rooms. It was one to two stories tall, maybe three in some places. People went into the rooms by ladders through the roofs. We don' t know if they had any enemies. But it looks like they built their village for defense. If there was danger, they would need to protect their families. Tyuonyi has no doors or windows in the outside walls or first floor rooms. There was only one way to get into the village. It was a small opening with a narrow hall. Maybe if there was trouble, the people could keep enemies out by removing the ladders and blocking the little opening.

Some of the rooms were for living and others were for storage. They needed to store lots of dried corn, beans, and squash to have for the winter. Rooms for living seem small compared to houses now. Many were about six feet wide and eight feet long. But most people were only a little over five feet tall. That' s shorter than many people today. They didn' t have big pieces of furniture to take up space, either. And each family could have as many rooms as they were willing to do the work to build.

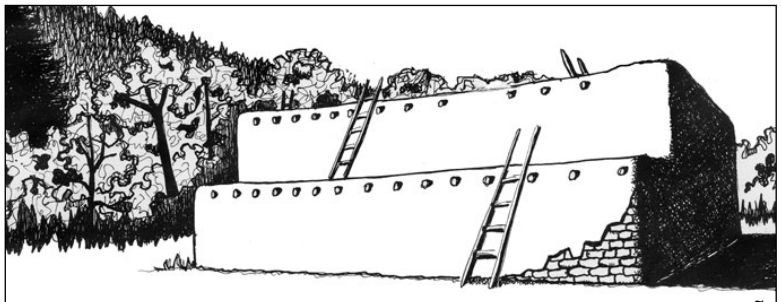
Most rooms didn' t have windows. They didn' t have glass, so windows would have just been openings in the wall. That would be cold in the winter! So usually it was pretty dark and smoky inside. Probably people spent time outside whenever they could.



An artist' s idea of what Tyuonyi looked like. Notice there is only one entrance to the village. Do you have any ideas why? The entrance marks the winter solstice. This means that on December 21st, the rising-sun lines directly up with the entry.

NPS

People often spent time in the plaza. There would be lots of things going on. Children would be playing. Women would be making pottery. Girls would carry water from the creek. Men would bring crops from the gardens. Boys would run by on their way to hunt rabbits. Good smells from cooking would make you hungry. In Tyuonyi there were three kivas in the plaza. Maybe you would hear people singing in the kivas.



Ancestral Pueblo people didn' t have grocery stores like we do today. People had to be very careful with food. Most of the pueblo structures had rooms that were used for storage. Crops, seeds, dried meat, water and other things were stored in the bottom level rooms. They were very dark and dry and kept things stored very well for months, even years!

Jeannie Hope Gibson

Cavates

If you visit Frijoles Canyon, you will notice small, odd-shaped holes in the canyon walls. They were formed by wind, rain, and frost. Then you will see ones that look like they were

(continued)

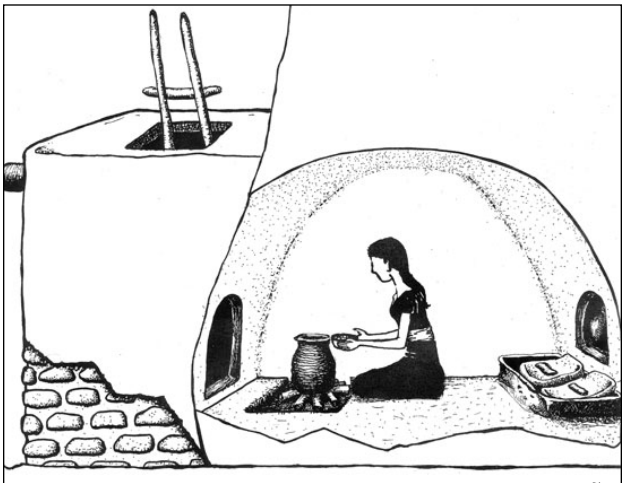
shaped. They have flat floors and door-shaped openings. You may even notice soot on the ceilings and plaster on the walls. This tells you that these are cavates (cave-EIGHTS). The Ancestral Pueblo people dug these holes in the cliff for living and storage. Cavates are not very big. Many are only about five feet wide and five feet tall. Often the people covered the walls with mud plaster. Sometimes they painted decorations on the walls. If there was a fire, the smoke would make soot on the cave ceiling. The plaster and the soot would help keep the tuff walls from crumbling onto people. Usually a cavate wasn' t used by itself. The people built a house in front, and the cavate was the back room.

Talus Houses

The loose rock at the base of a cliff is called talus (TAL-luss). So the houses built along the cliffs are called talus houses. Sometimes they are called cliff dwellings. They have cavates for back rooms. Talus houses blend in with the cliffs. Their stone walls look like they have always been there.

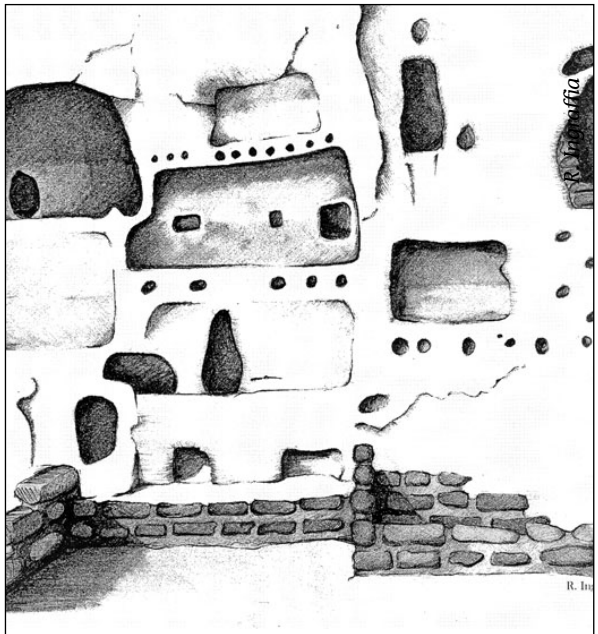
Talus houses were built like kivas and Tyuonyi. The walls were stone bricks. The roof was pine vigas, branches, and mud. People went into the house by a ladder in the roof. Maybe there was a cavate for a back room.

Along one cliff in Frijoles Canyon, the people built many talus houses next to each other. The group of houses is 800 feet long! That is a long line of houses. So it is called Long House.



Cavates usually were not the whole house. Ancestral Pueblo people built rooms outward to make more room. You went up the ladder to your home, then climbed down, you could get to the cave room in the back. This would be a nice place to grind corn or to make a nice hot meal.

Jeannie Hope Gibson



There are many cavates in Frijoles Canyon.Along the cliff are lines of viga holes. They show where the roofs used to be. Can you tell how many stories this area was by looking at the vigas holes?

R. Ingraffia

Answer: Three stories tall.

Good Homes

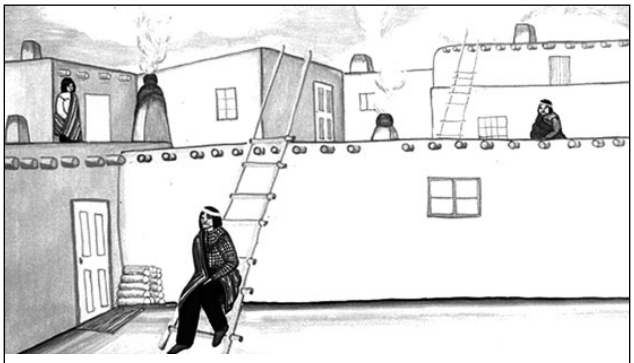
Maybe you wonder whether it was better to live in the cliff dwellings, or in Tyuonyi on the canyon bottom? Tyuonyi is closer to the creek and the corn fields in the canyon. That would be nice for getting water. In summer it would be easy to get to your garden. But living in the talus houses would be nice in winter. They are on the south-facing side of the canyon. That is the good place for sunlight. On short winter days the sun shines on those houses in the afternoon. Every winter day they had sunshine for more than an hour longer than the houses in Tyuonyi. So maybe the talus houses would be the place to be on winter days. You could sit on your roof in the sun longer. But at dark everyone in both places had to go indoors for the long cold night. Inside there were warm fires. Winter was the time for telling stories. So, both kinds of homes had advantages and disadvantages. Everybody was living in a good place.

(continued)

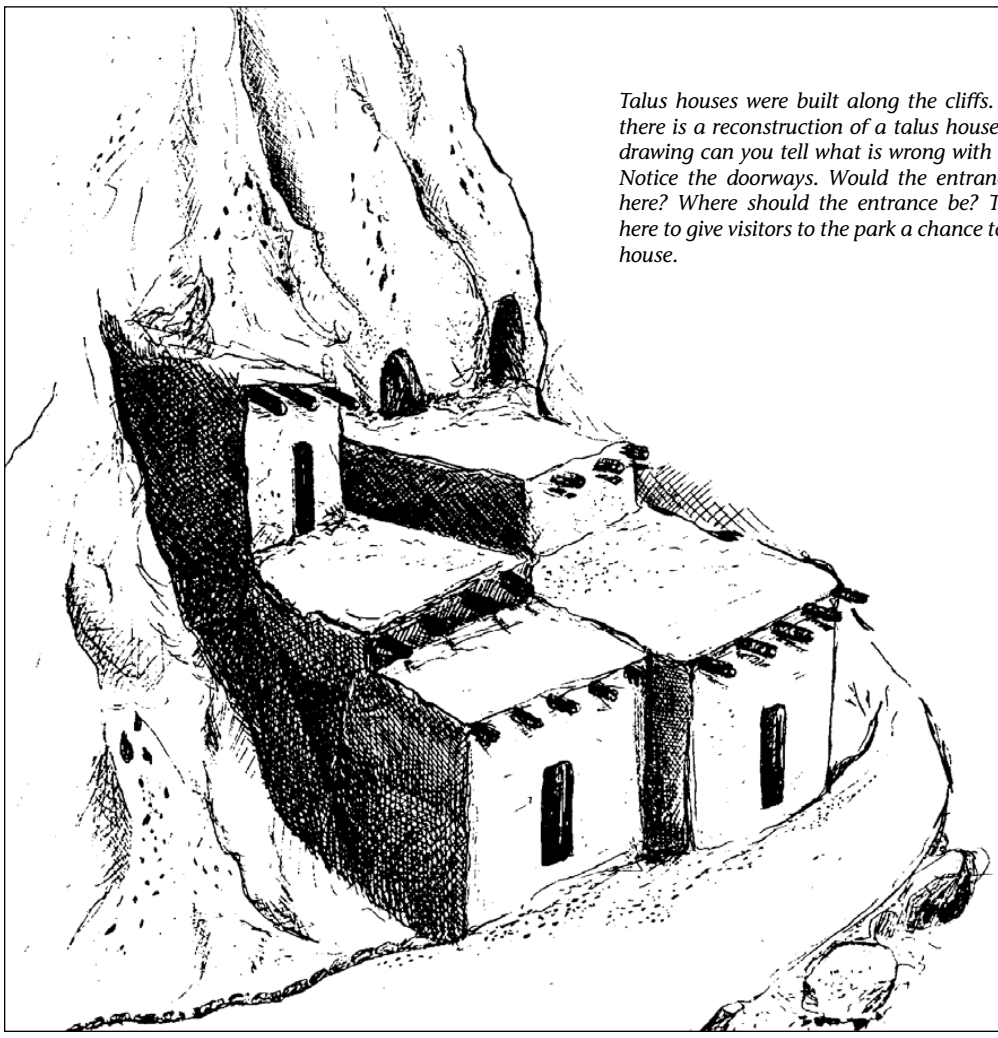
Building Homes in Frijoles Canyon (Continued)

All the Ancestral Pueblo houses were strong. They were warm in the winter and cool in the summer. Do you think you would like to live in one of the stone houses in those days? The rooms were smaller than the ones in your house. They didn' t have electricity, faucets, refrigerators, or video games. But they kept you dry when it rained or snowed. You would be proud because you helped build the house. Your family was close all around you. Grandparents told stories. Food was stored so you wouldn' t be hungry even in the winter.

Imagine being there on a dark, windy night. Good stone houses are all along the canyon wall, and in the big circle of Tyuonyi. Families are gathered inside their homes. Your fire is warm and bright. The cooking food smells so good! Soon it will be time for bed. Tucked in your turkey-feather blanket, cozy and secure, you drift into pleasant dreams.



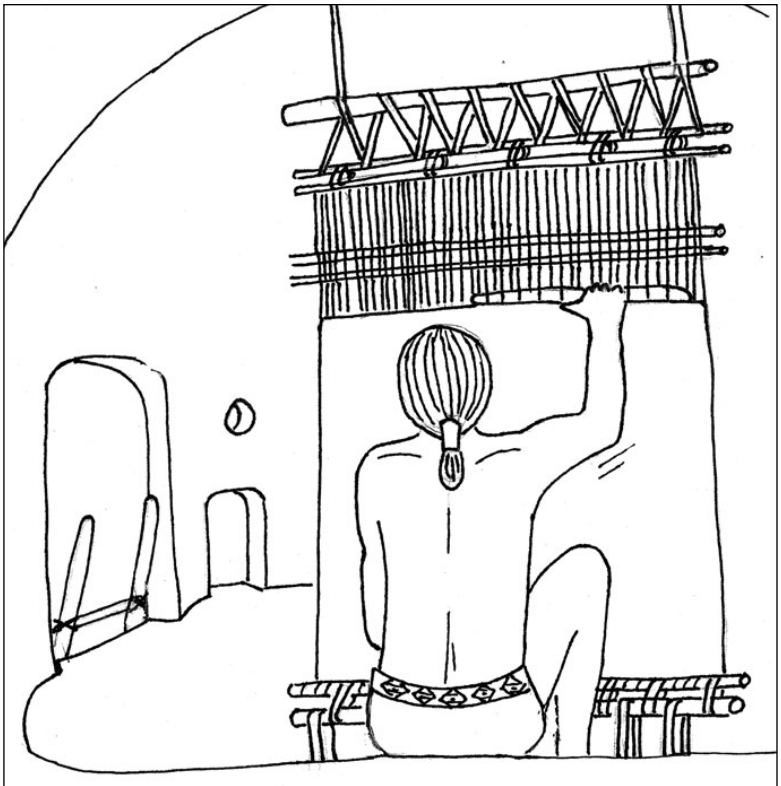
Pablita Velarde painted this pueblo scene in the 1940s. Many pueblo houses still look like ones long ago.



Talus houses were built along the cliffs. In Frijoles Canyon there is a reconstruction of a talus house. By looking at this drawing can you tell what is wrong with the reconstruction? Notice the doorways. Would the entrance to the home be here? Where should the entrance be? The doors were put here to give visitors to the park a chance to look inside a talus house.

Sabina Johns Coker

Making a Living



Ancestral Pueblo people in Bandelier had to trade to get cotton. Men wove it into cloth to make warm clothes.

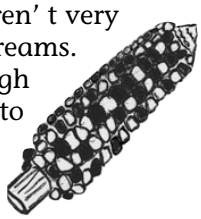
Chris Judson

Before the ancestors of Pueblo people were farmers, they were hunters and gatherers. For thousands of years they moved from place to place in small groups looking for plants to eat. They hunted deer, rabbits, and other wildlife. About a thousand years ago, they began to learn about faming. Their way of life changed. In the 1100s the Ancestral Pueblo people moved into Frijoles Canyon. By then they were skilled farmers and had experience in growing crops in such a dry area.

Chris Judson

The three main crops of the Ancestral Pueblo people were corn, beans and squash. What do you think your favorite food would be?

If they could, they lived near a river or stream. There they could dig ditches to bring water to their gardens, or use pottery jars to carry water to the plants. But there aren' t very many rivers and streams. There wasn' t enough space for everyone to make gardens there. In many places water only came from summer rains and winter snows. The mesa tops in Bandelier were like that. Often they would plant gardens in many different places. Some places would be good in dry years. Some places would be good in wet years. That way some food would grow every year.



For food they grew corn, beans, and squash. This was a very good combination. To be strong, and to grow, you need to eat protein. Meat has a lot of protein. But the people didn' t have much meat to eat. If you eat corn and beans together they give you protein. Squash also has good vitamins.

Some Ancestral Pueblo people also grew cotton to weave cloth. Bandelier is too high in the mountains. The summer is too short for cotton to grow here. The people traded with other groups to get cotton.

They were good farmers. But some years are just too dry for gardens to grow. People need food every year. So in good years they stored as much food as possible. They didn' t have refrigerators or freezers. There weren' t any metal cans or glass jars. To store food, the people dried it in the sun. Dry corn and beans will keep for years. Women cut the squash in long strips and hung the strips to dry. They gathered and dried edible plants. Meat was cut into thin pieces to dry into jerky. All the dry food was put in storerooms. The rooms had no windows. The walls were plastered with mud. That way no bugs or mice could get in and eat their food. Then they knew they would have food even in hard times.

At Thanksgiving you see bright-colored corn with hard kernels. People call it "Indian corn."That is the kind of corn the Ancestral

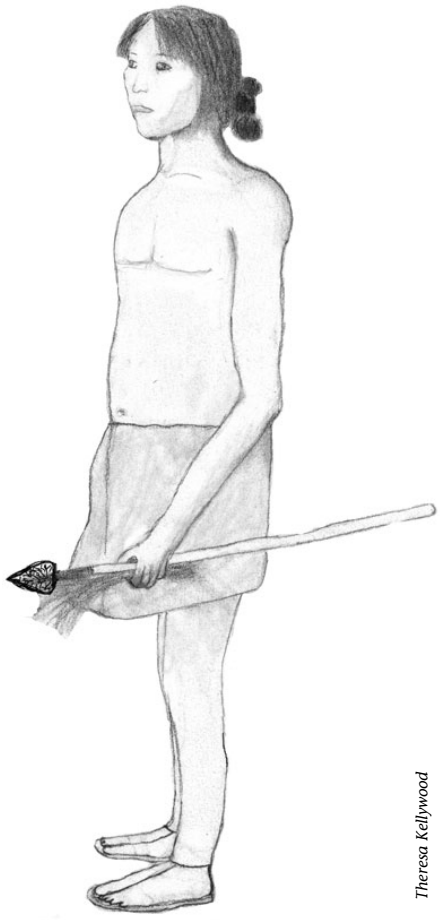
(continued)

Chris Judson

Squash and beans were a main part of the Ancestral Pueblo diet.

Pueblo people grew. In those days ears of corn were smaller than now. When they were full grown the people dried and stored them. To make food for their families, the women rubbed the cobs together. That made the kernels come off. They used two stones to grind the kernels into corn meal. The flat stone is the metate. The stone you hold in your hand is the mano. They put the corn meal into stew or used it to make mush. They made thin corn cakes and other good foods. The beans were the brown-and-white kind. When you boil them a long time they are tasty and nutritious. To use the squash they cut the dried strips into small pieces. Then they put the pieces into boiling soup or stew.

Today, farmers often have lots of animals around. For Ancestral Pueblo farmers the only domestic animals were dogs and turkeys. They didn' t have horses, cows, sheep, or chickens. All those animals came later with the Spanish. Probably the dogs were pets and for hunting. You might think the turkeys were to eat. But mostly they were important for their feathers. The long, hard wing feathers went on arrows and dance costumes. The people twisted the soft, small feathers with yucca-fiber string. Then they wove the fuzzy string into warm turkey-feather blankets.



Theresa Kellywood

Ancestral Pueblo men had many jobs. They were farmers, hunters, tool makers, and weavers. Some were also traders, traveling to different places to trade for things like feathers, cotton, or even copper bells!

Hunting was also important. Hunters used bows and arrows, snares, and rabbit sticks. They hunted animals including rabbits, deer, and elk. Pueblo hunters know that hunting is very special. They know that a hunter must be respectful. He must not waste any part of the animal. The meat was used for food and the skin for leather or fur. The brains were good for tanning the hide. The bones were made into tools. Sinew made strong thread for sewing. Antlers were used for making arrowheads and deer hooves for rattles. The people knew many other ways to use parts of animals. Hunters respected the animals.

Pueblo people have always known that their lives depended on water. They need snow to come in winter. When it melts in spring, seeds can sprout. They need the rain in the summer. Then crops and wild plants can grow. People and animals will have food. They believe that everyone must stay in harmony with all living things. Everyone must be in harmony with the spirits. Then people will have good lives. Pueblo people show their respect in the way they live every day. They have special dances, prayers, and songs. The ceremonies ask for rain, healthy families, and long life. Farming isn' t just about picking the right place to plant. Pueblo people know that the way they live is just as important. Today, many Pueblo people have jobs in the cities. But they come home for the dances. They want to live in harmony.

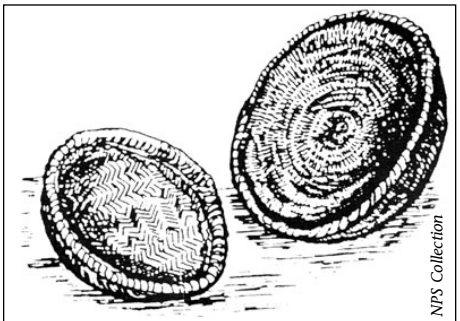
Using Native Plants

NEWSPAPER

People have lived around Bandelier for more than ten thousand years. One reason they survived is because they knew so much about using native plants. They used native plants for food, clothing, tools, medicines and dyes. Knowledge was passed on generation after generation. Parents taught their children, who taught their children. Everyone respected the elders who knew the most about using plants. Survival depended on knowing how plants could be used.

NPS Collection

Can you imagine what it would feel like to wear yucca sandals? These were the shoes worn by Ancestral Pueblo people every day.



NPS Collection

Yucca Baskets were used to carry many things including crops, plants and even water! Ancestral Pueblo people used sap from the pine trees to fill the holes and then had a container that could carry water.

NPS Collection

To the Ancestral Pueblo people, the yucca was like a mini-grocery store. Today, it is the New Mexico state flower.

Different plants grow in different environments. Plants must have certain things to survive. They need the right amount of water. They need the right amount of sunshine. They need the right kind of soil. A plant that needs a lot of water might live by a stream. One that is stronger could live in a canyon or arroyo where there is only water now and then. Plants that need lots of sunshine and not much water can live in open, dry places. Mesa tops are like that. Over hundreds of years the ancient people learned all about what plants need. They learned where to find the kinds they wanted to use. They learned when they bloomed, when they had berries and, they learned how get there before wild animals ate everything. Ancestral Pueblo people knew as much about plants as some modern scientists do.

Would you believe you can learn about plants in old garbage piles? Archeologists get a lot of information from studying ancient garbage. Maybe someone made a yucca sandal. Later it wore out and they threw it away. Hundreds of years later an archeologist finds it in a garbage pile. The archeologist studies the sandal. She finds out what plants people used. She finds out how sandals were made. If she keeps looking, she may find out other ways they used the yucca plant. She may find out that different people used plants for different things. She can also learn about the old ways from Pueblo people today.

Now, Pueblo people use yucca roots for soap. They use the flowers and fruit for food. They make string, baskets, and paintbrushes from the tough leaves. Probably people long ago used yucca in the same ways.

Maybe you are hungry. You can eat berries from one-seed junipers. They don' t taste very good, but they might help people have enough food in hard times. Something with much better flavor comes from the piñon tree. Piñon nuts are tasty and give you lots of energy. Piñon nuts had more calories than anything they grew. You could use piñon sap on the inside of a basket to keep water from leaking out. The wood is good firewood. You could even chew piñon sap like gum.

Another very useful tree is the Ponderosa pine. They are tall and straight. The bark of the Ponderosa smells like vanilla. The Ancestral Pueblo people used Ponderosa for beams to hold up their roofs and to make ladders. They explored all the possible ways to use plants.

The Ancestral Pueblo people grew most of their food in their gardens. They planted corn, beans and squash. However, native plants were still very important to them. They helped them have a healthier diet. If not enough food grew

(continued)

in their gardens, they still had native plants. When someone was sick, they knew the plants to use for medicine.

The elders today still teach children the knowledge of their ancestors. Children learn the importance of native plants. They learn how to use them. And they learn to respect them.

How did they use other plants? Imagine that you are an Ancestral Pueblo parent. Your baby has a wet bottom, just like babies now. But you can' t buy diapers. What do you do? Ancestral Pueblo mothers got their diapers from trees! Juniper bark is "shreddy." That means it comes off the tree in long strips. If you pound it with a rock it gets soft. It will soak up water. It makes a great diaper!

NPS Collection

The piñon tree is a remarkable tree. Piñon nuts are not made every year, only every 5 to 7 years. Also, before a piñon tree makes a cone, the tree needs to be at least 50-75 years old!

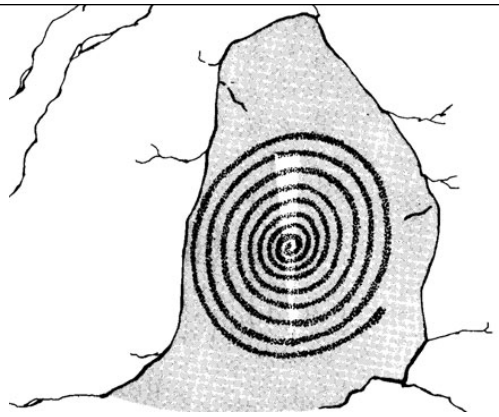
NPS Collection

The piñon tree was very valuable to the Ancestral Pueblo people. When the piñon nuts were in season, the people harvested them. The nuts are filled with protein and fat. A pound of the piñon nuts is about 5,000 calories!

Ken Nebel

Ponderosa Pine trees made very sturdy roof beams. The Ancestral Pueblo people did not have the wheel or horses, so the vigas had to be carried on the backs of the people!

Drawing Thoughts



This is an example of a spiral petroglyph. Spirals are very common.

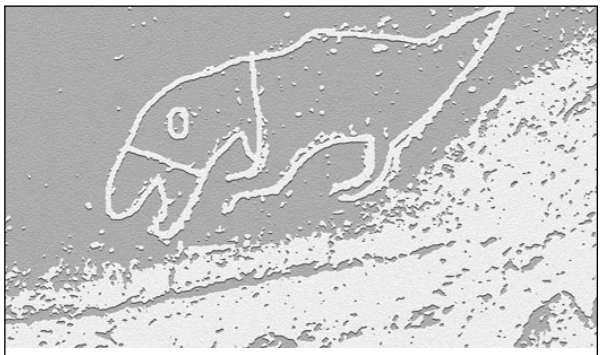
Humans have always wanted to write or draw special things. Drawings may show things that happened. They may show someone' s ideas. They may show ceremonies. Now we write about things using words. But most early people in America didn' t have alphabets. They used drawings to show their thoughts.

Here in the Southwest there have been many groups of Native Americans. Different groups make different kinds of drawings. Every one was important to the person who made it. Every one is important to Native Americans now.

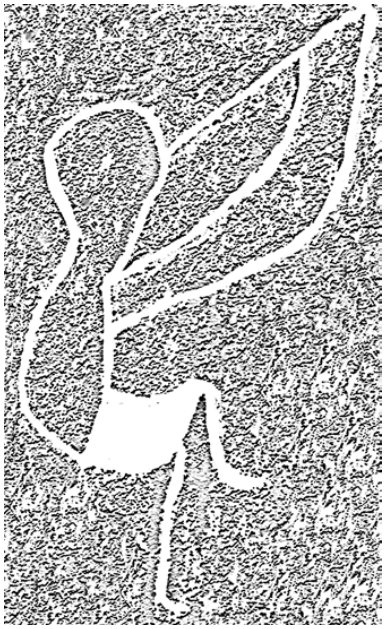
The word "petroglyph" is from two old words. In Greek, petro means rock. Glyph means something that is carved or engraved. Petroglyphs are images that people make by pecking, grinding, incising, or scratching. You can see petroglyphs on rocks, boulders, and canyon walls.

A pictograph is a drawing painted onto rocks. Ancient people made them with colors made from dirt and clay. Pictographs are very fragile. Most of them washed away centuries ago.

Almost all of them you could see today are in places protected from the weather. Petroglyphs and pictographs are not graffiti. Graffiti is writing or drawing that someone makes without permission. Usually it damages something. When an ancient person made a petroglyph or pictograph, probably it was special and important to everyone.



One of the many petroglyphs at Long House may show a macaw. Ancestral Pueblo people traded obsidian and other goods for the brightly-colored feathers of the macaw.



This is an example of a Kokopelli petroglyph. There are many stories of Kokopelli. The stories vary from pueblo to pueblo. This is also a very common petroglyph.

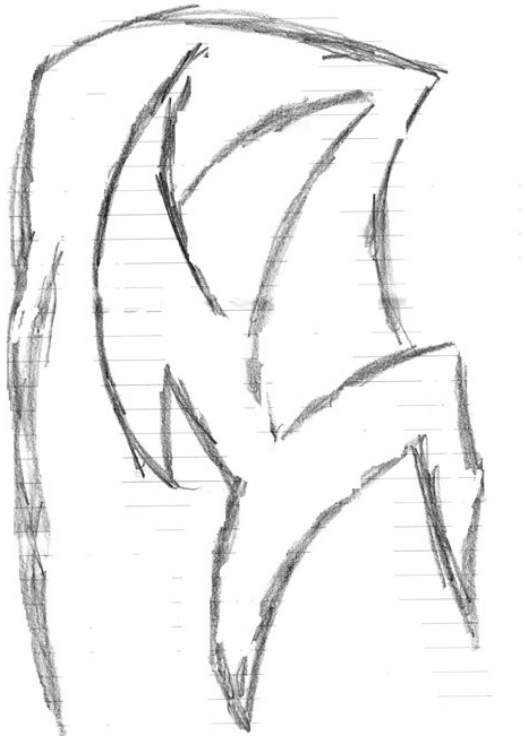
(continued)

Drawing Thoughts (Continued)

Jeannie Hope Gibson

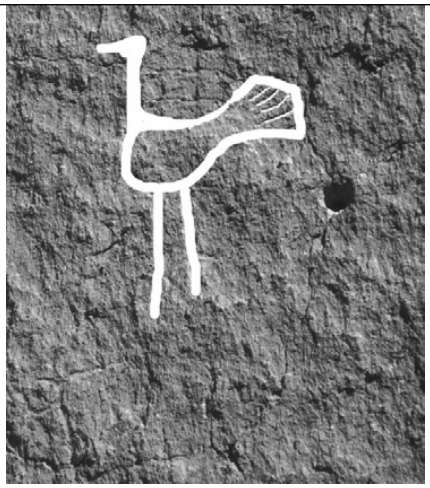
Artist depiction of Snake Kiva pictographs. Pictographs are designs that are painted on the rock. Pictographs are rare because they erode away more quickly than petroglyphs.

When you walk on the main loop trail at Bandelier you can see petroglyphs and pictographs. They were made by the Ancestral Pueblo people. Frijoles Canyon was their home for centuries. What do the pictures mean? Many symbols are familiar to Pueblo people today. Unless you can talk to the person who made it, you will never really know why they put it there.



Pictographs and petroglyphs are very important to Pueblo people. Many thoughts and ideas are still captured in the form of drawings. This is a drawing by Lorenzen Gonzales from San Ildefonso Pueblo when he was seven. His symbols are of nature and life. His mother, Melanie, paints designs on her pottery. Many symbols they use are passed on from Ancestral Pueblo people. By looking at the petroglyphs, pictographs and drawings like this, many different ideas and thoughts come to mind. What pictures come to you?

At Bandelier National Monument visitors enjoy finding petroglyphs and pictographs. If you visit you may see lots of symbols. There are things that look like animals, suns, spirals, and people. There are water serpents and the famous Kokopelli flute player. They are beautiful and very fragile. We want them to last a long time. So everyone needs to protect them. We need to remember that they are important. We need to be respectful. Please don' t get too close to them. Don' t touch them because little by little they will wear away. Remember that rock won' t grow back! They were made by ancestral hands hundreds of years ago. You will be glad that you helped preserve them.



NPS Collection

Turkey petroglyph at Long House. Ancestral Pueblo used turkey feathers to weave blankets.

Cooking with Clay

The pottery made by Pueblo people is beautiful to look at. It also tells us a lot about those who made it. Each pot tells a story.

People in the Southwest used to be nomadic. They traveled from place to place. After many years they started living in permanent villages. That was when they started using pottery. People in Central America and Mexico had known how to make pottery for a long time. Probably the methods for making pottery moved north. Pottery was ideal for storing the corn and beans they harvested. It kept animals out and lasted for a long time.

The first pieces made were very basic and are often called plainware. These were simple brown or grey bowls. Over time, Pueblo people became experienced potters. They began to polish the pot' s surface. Potters created new shapes of pots. They made cooking pots, bowls, storage jars, and serving bowls. There were ladles (or scoops), mugs, and figurines. They decorated some pieces with paint.

Pots used for cooking are "corrugated." That means they have bumps and ridges where the potter pinched the wet clay between her fingers. Often they have burn marks on the outside, from being used over a fire. Potters didn' t put painted designs on cooking pots. Most pottery from early times was unpainted cooking ware.

NPS Collection

Corrugated Pottery, one of the earliest kinds, was mostly used for cooking.

Later, some people began painting interesting designs on bowls and jars. These pieces were used for eating, drinking, or serving food. An early style is Black-on-White. Potters put a thin layer of white clay all over the pot. Thin clay is called slip. Then they made drawings on it with black paint. The designs were simple but beautiful. Today some potters still do Black-on-White designs. It has been done for 1,400 years.

Some potters put red slip on their pieces. Then they added intricate designs of red, white and black. Designs were mostly geometric. Some represented clouds, rain, and lightning. Others showed arrows, steps, and feathers. A few were drawings of animals. Some potters along the Rio Grande River in New Mexico made a special paint called glaze. It melts a little when the pot is fired, and comes out shiny. Today glaze is often used to cover a whole piece. Then it was only used to make designs.

People in different times and places made different styles and kinds of decoration. There were many different groups of Ancestral Pueblo people. Each group had its own designs and ways to make pottery. If you look very carefully at a pot you can tell which Ancestral Pueblo group made it. You can tell how long ago. This information is extremely important to archeologists. They are trying to figure out the history of the Southwest. Today, different pueblos still have their own ways to shape and decorate pots.

Many potters use designs that they find on pots made by their ancestors. Like in the old days, you can tell which pueblo a pot is from just by looking at its design.

Pottery is still made the way it was made long ago. Potters gather clay to make the pots. They gather minerals or plants to make the paints. Potters chew on yucca leaves to make paint brushes. Potters mix just the right amount of clay and water. They pull the clay out into long thick strips. They coil the strips around and around to build the body of the pot. The potter then pinches the coils together so the pot won' t fall apart. They scrape the pot inside and out to make the surface smooth. They let it dry slowly, and sand it. Then they decorate it.

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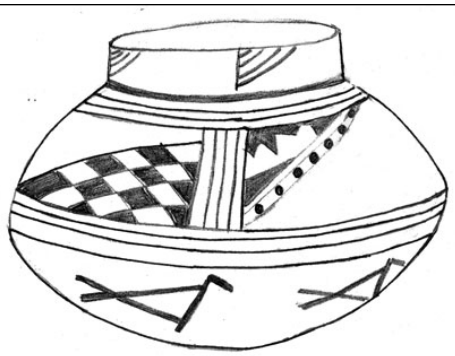
Cooking with Clay (Continued)

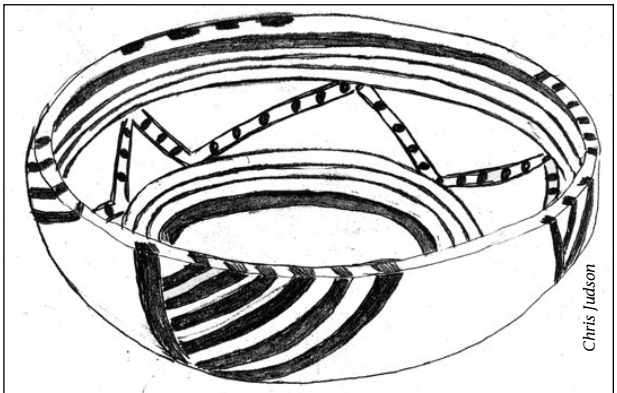


Chris Judson

Large jars such as this are also called ollas (oy-yahs). They were often used for carrying water and storing food. Drawing of Bandelier Black-on-Gray pot . It was made between 1400-1550.

Last they fire it to make it strong and hard. To do the firing, potters take the pots outside. They carefully and skillfully surround them with wood or something else that will burn. They want to make a very hot fire. When it is burning they leave the pots in until they know they are done. Some groups leave them for an hour. Some groups take more time, some less.

When the Spanish came to the Southwest they noted that women were making most pottery. Today in many pueblos there are both men and women who are excellent potters. In some pueblos, women make the pots and men paint them. Sometimes other combinations of people help each other.



Chris Judson

Pottery with painted designs was usually used for serving and storing food. This is a drawing of a Bandelier Black-on-Grey bowl made between 1400-1550.

Pottery was surely important in the lives of the Ancestral Pueblo people. They used it to collect and carry water and store crops. They used it to cook and serve food. Archeologists find that different pueblos traded pots. So we know it was important for trade. Pottery is still important to Pueblo people of today. For some it is an important way to make a living. For all Pueblo people it holds thousands of years of their traditions.

Chris Judson

This is an example of a bowl from Cochiti Pueblo. It was made in about 1940.

Chris Judson

Ancestral Pueblo women made all the pottery in the villages. When the women went for water, they carried the pots on their heads.

Maria Martinez

NEWSPAPER

Julian and Maria Martinez were an amazing team. Maria made the pottery and Julian painted designs on the pots. Together they made very beautiful Pueblo pottery for the world!

Maria Martinez was a potter from San Ildefonso Pueblo. That is only about 20 miles from Bandelier. In 1908, her husband Julian was working for Dr. Edgar Lee Hewett, who was an archeologist. Julian was digging in the Ancestral Pueblo houses in Frijoles Canyon. Dr. Hewett found some of the old pottery. He asked Maria and Julian to make copies of it. He liked the pots they made.

> "I am happy because I know that pottery will not die. My great-grandmother, Maria, taught me and now I teach my grandchildren."
>
> -Eveyln Naranjo, San Ildefonso

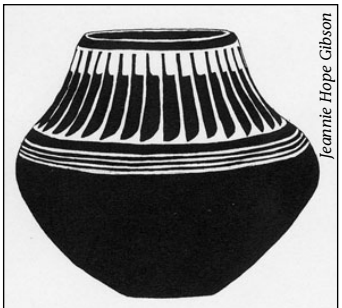
her polish the pot carefully with a smooth stone. That made it shiny. Then Julian painted designs on it. For paint he usually used slip. He painted designs with slip on the polished surface of a pot. The lines would show because they were matte (not shiny). Polychrome pots were cream-colored. He painted them with designs in red and black.

Jeannie Hope Gibson

This is an example of a pot by Tony Da, Maria' s son. It was made in the 1970s.The design is the Awanyu or the water serpent.

Jeannie Hope Gibson

This is an example of a polychrome pot. It was made by by Maria Martinez and her son Popovi Da in 1960.



Jeannie Hope Gibson

This is an example of a pot made by Maria Martinez and Popovi Da, in the 1960s. This pot has the feather design on it.

Later he helped them start selling their pots to people outside of their village. Before that, most potters just made pieces for their own family or other people they knew. Selling pottery to tourists gave Maria and other potters a new way to earn money. That helped their families and their whole community.

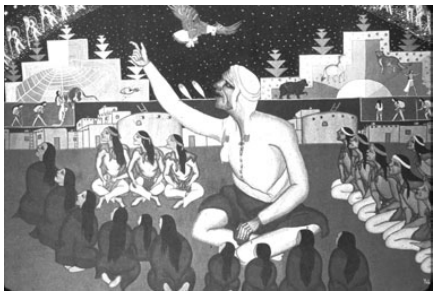
Maria and Julian became very famous for beautiful black pottery with black designs. It is called black-on-black. And they made other kinds too. They made red and polychrome. Polychrome means it has more than two colors.

Maria and Julian worked together. Maria shaped the clay into beautiful pots. She let the pot get dry. Then she sanded it until it was very smooth. She painted slip all over the pot. Slip is clay with lots of water. Her sister Clara helped

When a piece was finished, it had to be fired. Firing makes it hard and strong. Maria and Julian took the pots outside. They carefully built a fire around them. Julian figured out a way to make red pots come out black. He covered the fire with dry, powdered horse manure. That made the pots change color.

For many years Maria and Julian worked together to make beautiful black-on-black pottery designs. Julian passed away in 1943. Then their son' s wife, Santana, helped Maria. Later their son Popovi Da (poh-POH-vee day) did the decorating. He also made beautiful pots of his own. Maria Martinez was always willing to teach others how to work with clay. She passed away in 1980. To this day her family and many other Pueblo people make beautiful, traditional pottery.

Pablita Velarde



This is "Old Father Storyteller", by Pablita Velarde. Pablita wrote a book of Pueblo stories her father told her as a young girl. This is on the cover of her book.

This is an example of a painting by Pablita Velarde. She painted it in the 1940s. It is a men' s dance with dancers representing buffalo, deer, and antelope. The dance is usually done in the winter.

Pablita Velarde came from Santa Clara Pueblo. She worked at Bandelier in the 1940s. People know her for her wonderful paintings. They also know her because she was a pioneer. She opened the way for other women artists.

Pablita went to St. Catherine' s School in Santa Fe. Then she finished high school at the Santa Fe Indian School. There, she took art classes with Dorothy Dunn. She found out she was good at painting. Ms. Dunn encouraged Pablita in her artwork. In those days most Pueblo people didn' t think women should be painters. They thought women should just cook and raise children.

Pablita did pursue her dream to become a full time painter. It was not an easy road. But after she finished school in Santa Fe, she got a good job. Bandelier National Monument was making a new museum. They hired Pablita to paint Pueblo scenes. She wanted park visitors to learn about her people. She was very careful to make sure every detail in the paintings was right. At that time she worked with casein (kay-SEEN). That is a kind of paint that is based on milk.

Later she started making what she calls "earth paintings." She made the paint from colored dirt, glue, and water. Over her lifetime she has became famous for her art. She also wrote and made the pictures for a book. It is legends her father told when she was young. It is called "Old Father the Storyteller."

Pablita lived in Albuquerque for a long time. She passed away in 2005 when she was in her eighties.

Pablita opened the door for Pueblo women to be artists. If they have artistic talent, they can follow their dreams. This is even true in her own family. Her daughter Helen Hardin was a very famous painter. Sadly, she has passed away. Helen' s daughter Margarete paints and makes pottery. Pablita' s son Herbert is an artist too. He is a sculptor.

Along with painting, Pablita Velarde also made Pueblo dolls.

Pablita was very famous. She received many awards. And she made a legacy of stories in pictures. Her pictures tell of Pueblo life from an inside eye.

Working with the Newspaper, "Pueblo People Past and Present"

This lesson provides an opportunity for the students to get a thorough acquaintance with the contents of the newspaper, "Pueblo People Past and Present", which provides a good background for study of the Ancestral Pueblo people in Bandelier and elsewhere.

Location: classroom
Suggested group size: individuals, small groups, or entire class
Subject(s): anthropology, archeology, art, social studies, ethnobotany, geology, architecture
Concepts covered: compare and contrast, continuity of culture, Ancestral Pueblo lifeways
Written by: Chris Judson, Bandelier National Monument
Last updated: 12/2005

EDUCATIONAL STANDARDS

New Mexico Standards

Language Arts

K-4 Benchmark I-D: Acquire reading strategies

Grade 4

5. Increase vocabulary through reading, listening, and interacting

Social Studies

Strand: History

K-4 Benchmark I-A: Describe how contemporary and historical people and events have influenced New Mexico communities and regions

Grade 4

l. Identify important issues, events, and individuals from New Mexico pre-history to the present.

K-4 Benchmark I-D: Understand time passage and chronology.

Grade 4

1. Describe and explain how historians and archeologists provide information about people in different time periods.

K-4 Benchmark III-E: Describe how economic, political, cultural, and social processes interact to shape patterns of human populations, and their interdependence, cooperation, and conflict.

Grade 4

1. Describe how cultures change.

3. Describe types and patterns of settlements

National Standards

History

Topic 1 Living and Working Together in Families and Communities, now and long ago

Standard 1A, Grades K-4: The student understands family life now and in the recent past; family life in various places long ago

Standard 1B Grades K-4: The student understands the different ways people of diverse racial, religious, and ethnic groups, and of various national origins, have transmitted their beliefs and values

Standard 2 Grades K-4: The history of students' own local community and how communities in North America varied long ago

2A: The student understands the history of his or her local community

Grade K-4: Describe local community life long ago, including jobs, schooling, transportation, communication, religious observances, and recreation (obtain historical data)

Grade K-4: Examine local architecture and landscape to compare changes in function and appearance over time. (draw upon visual data)

Standard 2B Grades K-4: The student understands how communities in North America varied long ago

Grade K-4: Compare and contrast the different ways in which early Hawaiian and Native American peoples such as the Iroquois, the Sioux, the Hopi, the Nez Perce, the Inuit, and the Cherokee adapted to their various environments and created their patterns of community life long ago. (Compare and contrast differing sets of ideas)

Topic 2 : The History of Students' Own State or Region

Standard 3 K-4: The people, events, problems, and ideas that created the history of their state

3A: The student understands the history of indigenous peoples who first lived in his or her state or region

Grade K-4: Draw upon data in paintings and artifacts to hypothesize about the culture of the early Hawaiians or native Americans who are known to have lived in the state or region, e.g., the Anasazi of the Southwest, the Makah of the Northwest coast, the Eskimos/Inupiat of Alaska, the Creeks of the Southeast, the Mississippians (Cahokia) or the Mound Builders (Formulate historical questions)

Standard 6A: The student understands folklore and other cultural contributions from various regions of the United States and how they help to form a national heritage

Grade 3-4: Examine art, crafts, music, and language of people from a variety of regions long ago and describe their influence on the nation (Draw upon visual and other historical data)

Grade 3-4: Investigate the ways historians learn about the past if there are no written records (Compare records from the past)

Grade K-4: Compare and contrast various aspects of family life, structures, and roles in different cultures and in many eras with students' own family lives (Compare and contrast)

Social Studies

I. Culture

Middle Grades

a. compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns

c. explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture

II. Time, Continuity, and Change

Middle Grades

c. identify and describe selected historical periods and patterns of change within and across cultures, such as the rise of civilizations, the development of transportation systems, the growth and breakdown of colonial systems, and others

d. identify and use processes important to reconstructing and reinterpreting the past, such as using a variety of sources, providing, validating, and weighing evidence for claims, checking credibility of sources, and searching for causality

English Language Arts

1. Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, class, and contemporary works.

7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.

MATERIALS
Newspaper in this curriculum guide, "Pueblo People Past and Present"

Student worksheet found at end of lesson plan

BACKGROUND
For many years, people have been fascinated by the people who lived in the Southwestern United States, people who are the ancestors of the present-day Pueblo people. Over the years, archeologists, ethnographers, and others have studied these people and their present descendants, and many books have been written. As the work goes on, knowledge and understanding continues to grow and change, causing many written materials to become out of date.

At Bandelier, the park staff works continually to provide the most up-to-date and culturally sensitive materials to visitors, school groups, and others. This is done by consultation with park archeologists, Pueblo staff members, and frequent meetings with representatives of pueblo groups who consider themselves to be closely related to the area. This newspaper presents the best information currently available as of 2006, written at about a fourth-grade level but usable by other grades as well. This "newspaper activity" is designed to help students focus on the information they read in the various articles. Classes working with other lesson plans in this curriculum guide will also find useful information in the paper.

VOCABULARY
Because there will be so many new words in this activity, please refer to the Vocabulary List found elsewhere in the curriculum guide

PRE- AND POST-EVALUATION

Pre-Evaluation:
Look through the newspaper, or look through the newspaper activity, and come up with a number of questions that you know will relate to topics you plan to have the class work on in depth during your study of the Ancestral Pueblo people. As an all-class discussion, ask the students how they would presently answer those questions.

Post-Evaluation:
After the class has worked through the newspaper activity, ask them if they would still answer your questions the same as they did previously, or if they would want to add to, subtract from, or change their former answers. Ask them if there was anything that surprised them, or that they would like to know more about.

PROCEDURES: ACTIVITIES TO CHOOSE FROM

1. There are many ways to approach the newspaper and the newspaper activity. You may want to divide the class into small groups, and have each group read one section of the paper , answer the questions from that section, and then share them with the class, or any of a number of variations on that. The newspaper articles have been set up so that each topic can be readily copied out as a handout if you wish to. If you will be spending a fair amount of time working on your study of the Ancestral Pueblo people, you may end up having every student read the whole paper and answer all the questions.

EXTENSION IDEAS

1. As long as the newspaper is, we still had to cover each topic fairly briefly. If you have divided the class into small groups to handle each section, have each group find two or three additional facts related to their topic in other sources (such as the books listed in the bibliography found elsewhere in this curriculum guide).

2. Have each small group find one or two facts related to their topic that appear in other sections.

3. Ask individual students to find one or two facts that interest or surprise them in sections they otherwise wouldn' t have read.

RESOURCES

Books:

Curriculum guide newspaper, "Pueblo People Past and Present"

Student worksheet, below

Vocabulary list found elsewhere in the curriculum guide

For Extension Activity 1, books listed in the Bibliography, found elsewhere in the curriculum guide

Web Resources:

Bandelier National Monument: www.nps.gov/band

There are also general scenery photos of Bandelier on the web at: www.photo.itc.nps.gov/storage/images/index.html

Bandelier museum collections website: http://www.cr.nps.gov/museum or go to the Bandelier website and click on the collections icon

Library of Congress: http://memory.loc.gov/ammem

NEWSPAPER ACTIVITY

Name _____

1. Who manages Bandelier National Monument?

2. Many of the present-day pueblos are along a big river. What is its name?

3. Some words are disrespectful to Pueblo people. What can you say instead of:
• ruins: _____

• Anasazi: _____

• abandoned: _____

4. Name two things that Pueblo people today do the same way that their ancestors did:
a. _____

b. _____

5. The people of Bandelier made 5 of these things from rock.
Circle the 3 that aren' t lithics.

Walls of their homes	arrowpoints	sandals	hammers
Manos	jerky	metates	squash

6. If you wanted to build a house, match the materials with the part of the house you would use to make them:

Vigas (roof beams)	cavate
Walls	cottonwood or aspen branches
Floor	trees
Latillas (above roof beams)	tuff blocks
Storage space	clay

7. The food crops that the Ancestral Pueblo people grew were _____, _____, and _____ .

The domestic animals they had were _____ and _____.

8. Circle all the things that can be made from a yucca plant:
string arrowpoints sandals soap paintbrushes metates

9. Match one side to the other:

A petroglyph is — important to Pueblo people, and very fragile

A pictograph is — carved into rock

Both of them are — painted on rock

10. Pottery is (check all that are true)
- made from strips of clay
- fired to make it strong
- made from yucca plants
- often painted with designs
- used for cooking
- a kind of edible plant

11. Put a line from the name of the famous artist to each of the facts from her life:

Maria Martinez — made pottery
worked with her son Popovi Da

Pablita Velarde — is from Santa Clara Pueblo
painted pictures of Pueblo life
taught many others to make pottery
wrote a book of old stories
used casein paint
was from San Ildefonso Pueblo

12. Draw: an Ancestral Pueblo house

Draw: a spear point

NEWSPAPER ACTIVITY

1.**National Park Service**

2. **Rio Grande**

3. ruins: **archeological site, dwelling, house**
   Anasazi: **Ancestral Pueblo people**
   abandoned: **moved away, moved on**

4. Many activities are possible. The article lists using the **language, telling legends, and dancing**, but **other things would be right too, including simple things like sleeping or having friends**.

5. **Jerky, sandals, and squash** are not made from stones.

6. Vigas (roof beams)—**trees**
   Walls—**tuff blocks**
   Floor—**clay**
   Latillas (above roof beams)—**cottonwood or aspen branches**
   Storage space—**cavate**

7. Food crops were **corn, beans, and squash**;
   domestic animals were **dogs and turkeys**

8. Things that can be made from yucca plants are
   string, sandals, soap, and paintbrushes.

9. A petroglyph is **carved into rock**
   A pictograph is **painted on rock**
   Both of them are important to Pueblo people, and very fragile

10. Pottery is (check all that are true)
    made from strips of clay—**true**
    fired to make it strong—**true**
    made from yucca plants—**false**
    often painted with designs—**true**
    used for cooking—**true**
    a kind of edible plant—**false**

11. Put a line from the name of the famous artist to each of the facts from her life:

Maria Martinez

made pottery
worked with her son Popovi Da
taught many others to make pottery
was from San Ildefonso Pueblo

Pablita Velarde

is from Santa Clara Pueblo
painted pictures of Pueblo life
wrote a book of old stories
used casein paint

12. See the spearhead on page 6 and houses on pages 1, 8, 9, and 10

Teacher Vocabulary

A.D. : Ano Domini, "year of our Lord"; number of years since the birth of Christ. Now often shown as C.E., meaning "common era"

Acoma Pueblo: Keres-speaking pueblo atop a tall mesa west of Albuquerque

Adaptation: to change something to fit in better with its surroundings

Agriculture: the practice of growing crops

Ancestors: people related to you who were born before you were; this could include your parents as well as people hundreds or thousands of years ago.

Ancestral Pueblo people: name used for Pueblo people before the coming of the Spanish in the 1500s; formerly called Anasazi

Apparel: clothing

Archeological site: a place showing evidence that people have used it, often the remains of buildings and their contents

Archeologist: a scientist who studies people, usually from the past, by looking at things and places that they used

Archeomagnetism: a method of archeological dating based on the last date that clay in a firepit was exposed to the heat of the fire

Architecture: making buildings in a particular style

Artifact: any object that has been made or used by humans

Artist's conception: a drawing made to show a scene that cannot be shown by photo or painting made at the time. The artist works with archeologists, etc, to make the drawing as accurate as possible using available evidence

Atlatl: a throwing stick used to make a spear go farther and with more force than just throwing with one's arm

B.C.: "Before Christ", number of years before the birth of Christ. Now often shown as B.C.E., meaning "before common era"

Bandelier: Bandelier National Monument, near Los Alamos, New Mexico. It was established in 1916 to preserve thousands of archeological sites related to the Ancestral Pueblo people, and was named for early anthropologist Adolph F.A. Bandelier

Barter: trading for something you want without use of money

Basalt: a hard, dense, durable volcanic rock often used for tools such as metates, hammers, and axes.

Baton: flaking tool made from the thick base of an antler

Binder: also called temper; material mixed with clay to help the heat of firing be distributed more evenly. Temper may consist of sand or ground-up stone or potsherds

Breechclout: an item of clothing common all over the Americas (and much of the rest of the world at one time or another), which could consist of an apron front and back, or a long strip of material that went over the belt in front, between the legs, over the belt in the back, and hung down front and back.

Brittle: something that is strong but shatters if dropped or struck, such as glass

Cacique: the religious leader of a group; among old-time Pueblos, he often also settled disputes and made important decisions for the community. Many present Pueblos have caciques.

Carbon 14: a method of archeological dating based on the rate at which Carbon 14 breaks down to Carbon 12

Cavate: small room carved into the cliff, often used as the back room of a talus house

Ceramic: something related to making things out of clay

Ceremonial: items or activities related to religious activities

Checkdams: structures built in arroyos to slow down rain runoff to control flooding or save water for agriculture

Chert: stone similar to flint, used for making sharp-edged tools

Clay pit: place where soil suitable for making pottery can be found and dug up

Cliff dwellers: people who build their homes along cliffs. This location is often useful for defense or solar energy

Cobble: a stone that has washed down a river or stream; often they have become rounded.

Cochiti Pueblo: Keres-speaking pueblo along the Rio Grande just south of Bandelier; generally considered the home of the present-day people most closely related to the inhabitants of the large villages in Frijoles Canyon and to the south.

Coil: a strip of clay used to build a pot

Coiling: method of making pottery in which the prepared clay is pulled and rolled out into long strips, which are then placed around and around the growing vessel to build its walls. Each strip is pinched onto the one below it, and the seam is usually smoothed out. No wheel is used.

Commissioned: to arrange with an artist to create a particular painting or object

Conchoidal: seashell-shaped fracture pattern found in obsidian and glass

Consequences: what happens when someone does a particular thing; for instance, something bad that happens if someone breaks a rule

Consultation: to ask someone for their opinion, or gain understanding from someone else's knowledge; Bandelier has consultation meetings with Pueblo groups related to the park

Contemporary: something that happens at the same time as something else, or someone who lives at the same time as someone else, or something now.

Corbel: a heavy piece of wood used to spread out the weight of roof beams, etc, often seen as a cross piece at the top of an upright beam used to support a porch or roof

Core: chunk of stone from which flakes are removed for making points, etc

Corrugated: pottery in which the inside is smoothed but the marks from pinching the coils together are not polished away on the outside

Cultivating: farming, gardening .

Culture: a group of people who share traditions, beliefs, and customs. Sometimes the word is used for the traditions, beliefs, and customs themselves, and things or activities related to them.
Customs: traditional ways of doing things

Decipher: to figure something out or solve a message in code

Dendrochronology: a method of archeological dating based on patterns of tree rings (see the lesson "What We Can Learn From Old Trees?")

Dig: an archeological excavation

Edible: something that is nutritious and safe to eat

Elder: an older member of a group, depended on by others for their knowledge and wisdom

Embroidery: making designs by sewing threads onto fabric in a pattern

Environment: everything that surrounds a living thing, including other living things, the landscape, plants, water sources, etc

Ethnographer: a scientist who studies about groups and their culture past and present by learning about current customs from present people

European contact: the point at which Ancestral Pueblo people meet and begin to be influenced by people from Europe, first the Spanish in the 1500s. Usually they are termed Pueblo once this contact has occurred

Firing: the process in which pottery pieces are made hard and strong by exposing them to high heat.

Flake: thin piece of stone chipped from a core to be used to make points, etc

Folk art: a style of art often characterized by energy, enthusiasm, and bright colors, associated with people making objects more for their own use than for the commercial market

Generation: the continuity of people or families, as in grandparents, parents, and children make three generations. Also used to mean the time from one set to the next, how many years from the time someone is born until they have a child.

Geology: the science of studying the earth and how it formed; rocks, erosion, volcanoes, etc

Glaze: a mineral paint, used to decorate or coat pieces of pottery, which melts and becomes vitreous (glassy) when the pot is fired

Gourds: relatives of squash which develop a hard or leathery outside; when they are dried out, the seeds can be removed from the inside and the hard rind used for such things as bowls, dippers, rattles, and clay scrapers

Granite: a hard, dense rock formed inside of mountains; in New Mexico, it is common in the Sangre de Cristo Mountains.

Habitat: a place where a creature or plant lives; a good habitat provides everything that a living thing needs, including air, food, water, space, and the right climate.

Hafted: putting a handle, usually of wood, on a tool such as a knife or hammer

Harvest: the crops that have grown in a garden and are gathered at the end of the summer to use for food, such as corn, beans, and squash.

Heritage: knowledge and traditions passed to later generations

Hopi: language spoken at the Hopi villages in northern Arizona

Horno: an outdoor oven shaped like a beehive, made of thick adobe bricks, for baking wheat bread and bizcochitos (cookies). A fire is built inside, and when the insides of the walls are well heated, the fire is swept out, pans of bread dough are put in, a board is placed over the door, and the bread is left to bake until crusty on the outside, tender inside. Introduced by the Spanish.

Irrigation: to bring water to crops by means of ditches from a stream or creek to the garden

Jemez: Towa-speaking pueblo along the Jemez River, northeast of Albuquerque

Kachina: one name for a spirit; in some Pueblo groups dancers represent the kachinas by dressing in costumes including formal masks. Kachina dolls are figures made by parents, particularly among the Hopi, to help their children learn about the many different kachinas. For many pueblos kachinas are considered to be very confidential.

Keres: language spoken at Cochiti, Santo Domingo, San Felipe, Santa Ana, Zia, and Acoma.

Killing frost: the first fall night cold enough to kill garden crops

Kiln: a structure for firing pottery

Kilt: a garment worn by Ancestral Pueblo men and boys and still worn in Pueblo dances today, consisting of a rectangle of cloth wrapped around the hips and extending to the knees, usually fastened around the waist with a sash

Kiva: a room used by Pueblo people past and present for teaching, meetings, and religious gatherings; mostly used by men; in the past, usually round and underground

Kossa, Koshare: a Pueblo dancer, usually painted in black and white stripes, considered a sacred clown and connected to the ancestors

Legacy: something of lasting value left behind by someone. Sometimes it is an object, but often it is more related to greater understanding or greater appreciation of something.

Legend: a story that has been told for many years, often for so long that it is hard to know if it did actually happen

Lifestyle: the way a living thing lives its life; especially among people, various groups may have very different lifestyles than each other

Lintel: the beam placed at the top of a door or window opening to support the wall above the opening

Lithics: tools or other objects made from stone, or the scraps from making them

Loom: a device for weaving cloth

Maize: the formal name of corn

Mano: the stone held in one or both hands to grind corn into meal on a metate.

Manta: Spanish word for a piece of cloth, from the verb that means "to cover". Traditional pueblo dresses are often called manta dresses

Matte-on-black: A type of pottery made famous by potters in Santa Clara and San Ildefonso Pueblos. The background finish is shiny black, and the designs are painted over the shiny surface with slip which, when fired, has a matte (not shiny) texture.

Maturation: when the fruits, vegetables, etc in a garden are ready to harvest

Maul: a stone tool used much like a sledge hammer

Mesa: from the Spanish word for table; a part of a landscape that is much like a hill but flat on top, often with cliffs on the sides

Metate: the flat stone on which corn kernels are placed to be ground into meal; the grinding is done with a mano.

Micaceous: clay containing particles of mica, which sparkle as the pot moves. Most commonly used at Nambe, Picuris, Taos, and Oke Owinge (formerly San Juan) pueblos, and reputed to be the best material for pots for cooking beans Migration: moving from one place to another to find a better home or get away from an unsuitable one

Mortar: clay, adobe, etc used to hold bricks or stones together when building

Motif: a design, or part of a design, that is a unit recognizable on its own

Multistoried: a building more than one floor tall

Myth: usually a story that involves characters doing things that probably never could have happened

Native American: also often known as Indians. The people who were living on the North and South American continents before explorers from Europe and other places arrived, and their descendants.

Nomadic: people who travel from place to place with the seasons or as food is available

Obsidian: glassy black volcanic stone used for making extremely sharp tools

Ochre: pigment found in colors from yellow through red; color comes from iron oxide

Oke Owinge: Tewa-speaking pueblo north of Española (formerly known as San Juan)

Olla: a large pottery vessel with a wide body and narrower neck, often used for carrying or storing water; sometimes they could hold as much as two gallons

Oral: saying something aloud instead of writing it down

Oral tradition: information and knowledge being passed from person to person by word-of-mouth

Pajarito: Spanish for "little bird". Pajarito Plateau is the name for the area around Bandelier

Paste: the clay used to form the body of a vessel

Percussion: method of making sharp edges on lithics by striking one stone with another

Petroglyphs: drawings carved or scratched into rocks or cliffs

Plateau: a wide, basically level landform; in the southwest, erosion often cuts the tableland into separate mesas

Plaza: an open space often found in the middle of a Pueblo village, used for many activities including ceremonial dances.

Polishing stone: a very smooth, rounded stone used for polishing a piece of unfired pottery

Pollen analysis: a method of finding out what environment surrounded an archeological site when it was inhabited, based on what plant pollen is found

Pot sherd: a piece of a broken pot

Potassium-Argon: a method of archeological dating based on the rate at which potassium converts to argon

Pressure-flaking: making sharp edges on lithics using pressure from tools made from antlers

Projectile point: stone shaped to have a pointed tip and sharp edges, to be the head of an arrow or spear

Provenience: the relationship of a sherd or other item in an archeological site to everything else in the site, which provides its value for information

Pueblo: Spanish word for village, often used to mean a community of Native American people with particular customs, including farming, weaving, and making pottery, and their settlement. There are presently 19 pueblos in New Mexico, plus the Hopis in Arizona and Isleta del Sur outside of El Paso, Texas.

Puki: a Tewa term meaning a dish, often made from the bottom of a broken pot, used by potters as a base when building a pot. The puki supports the growing pot, allowing it to be turned without sticking to the table. Some potters make pukis specially for different sizes and shapes of pots.

Puye: a site considered by the Santa Clara Pueblo people to be a home of their ancestors

Quarrying: to dig rock out of the earth to use for tools, etc

Raw materials: materials as they come out of nature, before they have been processed to be used, such as clay just out of the ground, or yucca leaves before the green material is removed

Reconstruction: to rebuild a building or other object, usually to look as it had originally

Recorded history: the time at which people began to write down records of things that had happened

Rio Grande: the largest river in New Mexico; many present-day pueblos are located along it

Roles: the jobs and responsibilities that people are expected to carry out in their families and communities.

San Felipe Pueblo: Keres-speaking pueblo along the Rio Grande south of Cochiti, with long traditions of being connected to the ancestral towns in Bandelier

San Ildefonso Pueblo: Tewa-speaking pueblo along the Rio Grande near Pojoaque; they consider themselves to be the home of the present-day people most closely related to the inhabitants of the Tsankawi section of Bandelier

Santa Clara Pueblo: Tewa-speaking pueblo along the Rio Grande near San Ildefonso and Espanola; they also consider themselves to be related to the inhabitants of Tsankawi

Santo Domingo Pueblo: Keres-speaking pueblo along the Rio Grande north of San Felipe and south of Cochiti; they consider themselves to be related to the inhabitants of the main section of Bandelier

Sash: a woven belt, often with woven patterns along the length and fringe on the ends

Sherd (sometimes spelled shard): a piece of a broken pottery vessel

Sinew: strong stringy material from animal tendons, used as string or thread

Site: a location; often used to mean a place where people lived and/or where archeological work is being done

Slip: clay thinned with water to the consistency of paint, often used to decorate unfired pottery; it is generally used as the background color, and can also be used for the designs

Soot: black, sticky, powdery material from smoke from fires

Spear point or projectile point: piece of stone, bone, or wood (or, later, metal) shaped to a sharp point to be attached to a spear or arrow for hunting

Spirit line: a design motif, usually on Pueblo pottery, symbolizing the custom of leaving an opening in the design so that the artist's creative spirit will not be trapped in that one piece.

Stratigraphy: a method of archeological dating based on finding items at different levels in a site where people lived over a long period; usually the deepest are the oldest

Survival: things done to stay alive

Tact: the process of saying or doing the right thing to avoid offending someone

Talus: loose rock at the base of a cliff

Taos Pueblo: Tiwa-speaking pueblo, most northern along the Rio Grande

Temper: material such as sand or ground-up pottery sherds added to clay to help spread the heat evenly during firing.

Tine: one of the points on an antler; can be used for pressure flaking

Tiwa, Tewa, Towa: languages in the Tanoan group, related but not mutually intelligible. Tiwa is spoken in Taos, Picuris, Isleta, and Sandia. Tewa is spoken at Oke Owinge (previously called San Juan), Nambe, Santa Clara, San Ildefonso, Pojoaque, and Tesuque. Towa is spoken only at Jemez.

Trade goods: items carried by traders to sell or barter with other people

Tradition: the way a particular group of people chooses to do something, often passed down through many generations

Trailguide: a booklet containing information on things of interest seen along trails, particularly in parks such as Bandelier.

Tree rings: circular growth patterns that form inside of tree trunks every year that a tree lives; they are wider in wet years, narrower in dry ones (see also "Dendrochronology ")

Tuff: Crumbly rock composed of volcanic ash. At Bandelier, the canyon walls and mesas are made of tuff that came out of two huge eruptions of the Jemez Volcano over a million years ago. The Ancestral Pueblo people shaped the soft stone into bricks to build their homes and carved small caves into the cliffs to use as rooms

Turquoise: a soft stone, found in varying shades of blue to green, popular for making jewelry throughout the Southwest past and present. There is a source south of Santa Fe near Cerrillos, which has been mined for hundreds or thousands of years.

Utilitarian: pottery made for cooking. This type usually has corrugations on the exterior rather than painted designs.

Vessel: an item of pottery, such as a bowl, jar, etc

Viga: Spanish word for a roof beam

Witch: one English translation for the Pueblo idea of someone who was willing to hurt other members of the community in order to have power; the word has other meanings in other cultures

Yucca: plant with long, stiff, sharp-pointed leaves, found in dry areas, related to lilies although often mistakenly identified as a cactus (state flower of New Mexico)

Zuni: language spoken only at Zuni Pueblo, and unrelated to any other known language

Zuni Pueblo: Zuni-speaking pueblo south of Gallup which still maintains strong connections to certain locations in Bandelier

Words that present-day Pueblo people ask us not to use:

Abandoned: present-day Pueblo people feel that their ancestors are still present in their old homes such as Bandelier; they don't feel that the sites are abandoned.

Anasazi: a word from the Navajo language which means, literally, "ancient people who aren't us" and is often translated as "ancestors of our enemies". Pueblo people find this inappropriate and offensive, and the term Ancestral Pueblo is generally used instead

Disappeared: present-day Pueblo people know that their ancient relatives just moved to new homes, the villages where their descendants live today; they didn't "disappear"

Prehistoric: when historians talk to each other, they use this term to mean any group of people who do not yet use writing. However, to the general public, it is associated with times when dinosaurs roamed the earth, which is millions of years before Ancestral Pueblo culture had developed, so it can be confusing.

Primitive: this word is generally used to mean something that is not very well made or someone who isn't very smart, and neither of those meanings apply to the Ancestral Pueblo people

Rock art: petroglyphs and pictographs, drawings made on cliffs and rocks, have long been known as rock art, but many present Native Americans feel "art" doesn't convey the importance of these drawings for those who made them and their descendants today.

Ruins: Pueblo people think of the dwellings as places where their ancestors are still present, and also feel that it is right for a building to go back to the earth after it is used, so they dislike the word "ruins". Site, home, house, dwelling, etc. can be used instead.

Student Vocabulary

Agriculture: making a living by growing crops

Ancestral Pueblo people: name used for Pueblo people before the Spanish came in the 1500s; formerly called Anasazi

Archeological site: a place that people have used. It can be a home or other building, or another kind of place people used.

Archeologist: a scientist who studies people, usually from the past, by looking at things and places that they used

Bandelier: Bandelier National Monument, near Los Alamos, New Mexico. It was established in 1916 to preserve thousands of archeological sites related to the Ancestral Pueblo people. It was named for early anthropologist Adolph F.A. Bandelier

Basalt: a hard, dense, durable volcanic rock often used for tools such as metates and hammers

Cavate: a small room carved into a cliff, often used as the back room of a talus house

Ceramic: something related to making things out of clay

Ceremonial: something related to religious activities

Cliff dwellers: people who build their homes along cliffs. This location is often useful for defense or solar energy.

Coiling: method of making pottery by rolling the clay into long strips, then taking each strip and coiling it around and around to build a pot. Each strip is pinched onto the one below it, and the seam is usually smoothed out. No wheel is used.

Corrugated: pottery in which the marks from pinching the coils together are not polished away on the outside, just on the inside

Culture: a group of people who share traditions, beliefs, and customs. Sometimes the word is used to mean the traditions, beliefs, and customs themselves.

Customs: traditional ways of doing things

Dendrochronology: a method of archeological dating by looking at tree rings

Elder: an older member of a group, depended on by others for their knowledge and wisdom

Firing: making pottery pieces hard and strong by exposing them to high heat.

Generation: the continuity of people or families. Grandparents, parents, and children make three generations. Also used to mean the time from one set to the next, how many years it is from the time someone is born until they have a child.

Harvest: the crops that are gathered at the end of the summer to use for food, such as corn, beans, and squash.

Heritage: knowledge and traditions passed to later generations

Irrigation: to bring water to crops by ditches leading from a stream or creek to the garden.

Kilt: a garment worn by Ancestral Pueblo men and boys and still worn in Pueblo dances today. It is a rectangle of cloth wrapped around the hips and extending to the knees, usually fastened around the waist with a sash

Kiva: a room used by Pueblo people past and present for teaching, meetings, and religious gatherings. They are mostly used by men and in the past were usually round and underground.

Legend: a story that has been told for many years, often for so long that it is hard to know if it did actually happen

Lithics: tools or other objects made from stone, or the scraps from making them

Maize: the formal name of corn

Mano: the stone held in one or both hands to grind corn into meal on a metate.

Metate: the flat stone for grinding corn kernels meal. The grinding is done with a mano.

Native American: also often known as Indians. The people living on the North and South American continents before explorers from Europe and other places arrived, and their descendants

Petroglyphs: drawings carved or scratched into rocks or cliffs

Plaza: an open space in the middle of a Pueblo village, used for many activities including ceremonial dances.

Pot sherd: a piece of a broken pot

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Roles: the jobs and responsibilities that people have in their families and communities.

Sash: a woven belt, often with woven patterns along the length and fringe on the ends

Site: a location; often used to mean a place where people lived and/or where archeological work is being done

Talus house: a house built along the top of the slope of talus at the base of a cliff

Temper: material such as sand or ground-up pottery sherds added to clay to help spread the heat evenly during firing.

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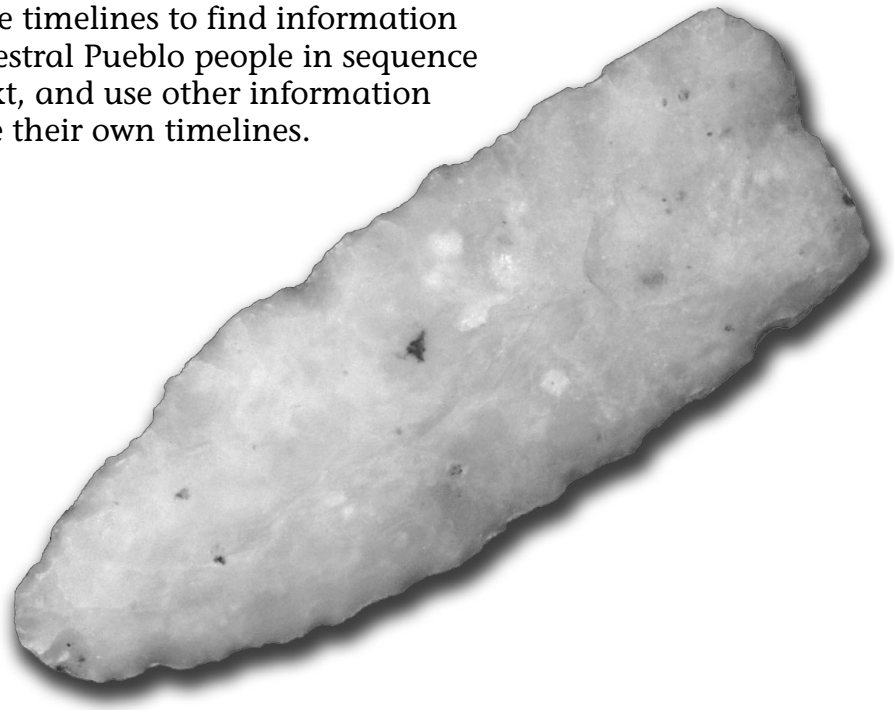
Making and Using Timelines

Students use timelines to find information on the Ancestral Pueblo people in sequence and context, and use other information to assemble their own timelines.



Location: classroom
Suggested group size: whole class, small groups, individuals
Subject(s): history, social studies
Concepts covered: time sequences, chronology, ethnography, development of cultures
Written by: Chris Judson, Bandelier National Monument
Last updated: 10/2005

Student outcomes: At the end of this activity, students will be able to use timelines to discover time sequences and the relationship of events in various years, and use known events to create a timeline.

EDUCATIONAL STANDARDS

New Mexico State Standards

Social Studies

K-4 Benchmark I-A: Describe how contemporary and historical people and events have influenced New Mexico communities and regions

Grade 4

l. Identify important issues, events, and individuals from New Mexico pre-history to the present.

K-4 Benchmark I-D: Understand time passage and chronology.

Grade 4

1. Describe and explain how historians and archeologists provide information about people in different time periods.

K-4 Benchmark III-C: Be familiar with aspects of human behavior and man-made and natural environments in order to recognize their impact on the past and present

Grade 4

2. Describe how environments, both natural and man-made, have influenced people and events over time, and describe how places change.

K-4 Benchmark III-E: Describe how economic, political, cultural, and social processes interact to shape patterns of human populations, and their interdependence, cooperation, and conflict.

Grade 4

1. Describe how cultures change.

K-4 Benchmark III-B: Identify and describe the symbols, icons, songs, traditions, and leaders of local, state, tribal, and national levels that exemplify ideals and provide continuity and a sense of community across time.

Grade 4

1. Describe various cultures and the communities they represent, and explain how they have evolved over time.

Language Arts

K-4 Benchmark I-D: Acquire reading strategies

Grade 4

5. Increase vocabulary through reading, listening, and interacting

NATIONAL STANDARDS

Standard 2 Grades K-4: The history of students' own local community and how communities in North America varied long ago.

2A: The student understands the history of his or her local community

Grade K-4: Examine local architecture and landscape to compare changes in function and appearance over time.

Topic 2: The History of Students' Own State or Region

Standard 3 K-4: The people, events, problems, and ideas that created the history of their state.

3A: The student understands the history of indigenous peoples who first lived in his or her state or region

Grade 3-4: Compare and contrast how Native American or Hawaiian life today differs from the life of these same groups over 100 years ago (Compare and contrast differing sets of ideas)

II. Time, Continuity, and Change

Middle Grades
b. Identify and use key concepts such as chronology, causality, change, conflict, and complexity to explain, analyze, and show connections among patterns of historical change and continuity

English Language Arts
7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.

MATERIALS

Paper, writing utensils

Flipchart paper or butcher paper to post for building vocabulary list

Pueblo Timeline chart from Bandelier

Extension: state map of New Mexico

VOCABULARY

A.D.: Ano Domini, "year of our Lord"; number of years since birth of Christ. Now often shown as CE, meaning current era

Atlat: a throwing stick used to move a spear farther and with more force than just throwing without it

B.C.: "Before Christ", number of years before the birth of Christ. Now often shown as B.C.E., meaning before current era

Checkdams: structures built in arroyos to slow down rain runoff to control flooding or save water for agriculture

Killing frost: the first night in the autumn cold enough to kill garden crops

Maize: the formal name of corn

Maturation: when the fruits, vegetables, etc in a garden are ready to harvest

Multistoried: a building more than one story tall

Nomadic: people who travel from place to place with the seasons or as food is available

Plateau: a wide, basically level landform; in the southwest, erosion often cuts the tableland into separate mesas

Quarrying: dig rock out of the earth to use for tools, etc

Recorded history: the time at which people began to write down records of things that had happened; the date it begins varies from place to place. In the southwestern US it is considered to begin when the Spanish arrive and begin making written records.

PRE AND POST-EVALUATION

Pre-Evaluation

As a class, make a list of the things the students would, and would not, like about living in New Mexico in the time period covered by the timeline, that is, up to just when the Spanish arrived in the area. You may want to make it simpler by taking this only up to, but not including, the arrival of the Europeans.

Post-Evaluation

1A. Have the class look over their earlier list and see if they want to add to, subtract from, or change it.

1B. Ask each student to write a paragraph explaining which time period he or she would most, or least, have liked living in, and why.

PROCEDURES: ACTIVITIES TO CHOOSE FROM

1. Divide the class into 6 groups and give each a different section of the timeline to be used in upcoming activities. The timeline was printed in 1994. Even though the things it talks about happened a long time ago, scholars and scientists continue to learn more year after year. In the newspaper about Bandelier in the curriculum guide, there is an article called "Speaking with Respect and Understanding" which talks about words that we now know are offensive to Pueblo people. You will notice that some of these words are used in the timeline; that tells you that we have learned more since it was printed. Have each group check their section to see if any of these words appear, and identify words that can be used instead or use the student vocabulary sheet.

2. From the timeline, find out what these words mean: (note: the meaning of each is shown in the text directly after the word)
   nomadic
   foraging
   atlatl
   maize
   pithouse
   olla
   plaza
   indigenous
   dry farming
   pueblo
   prehistoric

3. Using their timeline sections, ask each group to identify and write down at least 4 important things that were happening during that period. Ask the groups to come up in front of the class in the proper chronological order (the students determine what that order is) to put their section on the board in the right order and tell the class the important things happening during their period of time.

4. Identify which period of time each of these things was happening. This could be done as a class activity with the students still divided into the groups from Activity 3. When the teacher reads each sentence below, the appropriate group jumps up (or raises hands) to tell what period the thing occurred.

   1) The arts of weaving, pottery, and jewelry making were at their finest
      AD 1100-1250

   2) Beans were introduced from the south and planted with corn and squash.
      AD 450-750

3) This century marks the beginning of "recorded history" as it was documented by the Spanish for the first time. 1500s

4) On the Pajarito Plateau, some of the people settled on the mesa tops while others inhabited the cliffs and the canyon bottoms. AD 1250-1500

5) This period saw the beginning of farming with the introduction of agriculture from their neighbors to the south in Mexico. AD 1-450

6) The people built above-ground masonry dwellings which gradually replaced the pithouse. AD 750-1100

7) People were hunters and gatherers who often moved to different places in search of food and other materials as their availability changed during the seasons of the year. Archaic - up to 1 AD

8) The people had by this time domesticated two types of animals -- dogs and turkeys AD 1-450.

9) Farming was practiced here as it had been elsewhere in the Rio Grande and San Juan areas. AD 1250-1500

10) The Ancestral Pueblo people traded turquoise, obsidian, and painted pottery. AD 1100-1250

11) The bow and arrow gradually replaced the atlatl as the main weapon used to hunt rabbits, deer, elk, bighorn sheep, buffalo, and bear. AD 450-750

12) Cotton blankets and garments were added to the wardrobe of fur and feather ones previously used. AD 750 - 1100

5. Hang complete timelines in several different locations in the classroom. Have the students remain in their groups to complete a "treasure hunt" by having each member of the group look for the answers to one or more of the questions below in the timeline. ***(see worksheet at end of lesson)***

1) List at least 3 different types of dwellings the people lived in.
2) Describe at least 3 different ways that they obtained food.
3) Describe at least 3 different tools or weapons they used.
4) Name at least 3 ways they farmed, and the crops they had before the Spanish came.
5) Name at least 3 things they used for trade and 3 things they traded for.
6) Name at least 2 things that they continued to do over several time periods.
7) Name at least two things that changed when the Spanish people came.

6. Have each student make a timeline for a period of his or her life, i.e., the last month, a year, or their whole life. Be sure they know that they can' t show everything that happened, so they will need to choose the things that were most important to them.

EXTENSION IDEAS

1. Obtain a state map of New Mexico and mark these areas, mentioned in the timeline, that were used by some of the Ancestral Pueblo people at various times:
   - San Juan Basin (around Farmington, Aztec, Chaco Canyon, and Cortez, Colorado)
   - Rio Grande Valley (from Taos, down the river past Albuquerque to El Paso)
   - Pajarito Plateau (Bandelier and Los Alamos area)
   - Chama Valley (north of Espanola to Abiquiu and Chama)

Assign a different color to each of the time periods. As a class, use colored map tacks or colored pens to place a mark on the proper section of the map each time it is mentioned in the timeline. Which area is closest to where you live? Note: it is sometimes difficult to remember that these areas were not the only places where Ancestral Pueblo people were living; these are just the ones most related to Bandelier. At various times, there were Ancestral Pueblo people living in northern New Mexico, northern Arizona, southern Colorado, southern Utah, and even in a part of Nevada.

2. After the Spanish arrived, there were conflicts between them and the Pueblo people. As a class discussion or a writing assignment for individual students or small groups, have the students tell what they think the Spanish settlers and the Pueblos fought about. Hint: how would you feel if a group of people moved into your school or neighborhood with the intention of being in charge of almost everything, including school, government, religion, and where you could live, and also required you to pay taxes to them? Would you feel that way even if they brought neat things like horses, sheep, cows, wheels, chimneys, and metal ?

3A. As a class, extend the Pueblo Timeline by adding these events (from the Social Studies textbook *New Mexico!* by Marc Simmons):

1519 Hernando Cortez lands in Mexico

1540 Francisco Vasquez de Coronado begins his expedition to explore north of Mexico

1786 Governor Anza makes peace with the Comanches, making it much safer to live here

1541 Coronado travels through parts of present-day Kansas and Oklahoma

1692 Spanish under Don Diego de Vargas return to New Mexico

1706 Albuquerque is established, named for the Duke of Alburquerque, Viceroy of New Spain. (Since that time, one "r" has been dropped from the word.)

1609 Don Pedro de Peralta becomes governor of New Mexico and moves the capitol to Santa Fe

1680 Popé leads the Pueblo Rebellion against Spanish settlers under Governor Antonio de Otermin

1821 New Spain, including present-day New Mexico, separates from Spain, and becomes the nation of Mexico

1538 Fray Marcos de Niza and Estavanico go north from Mexico City, looking for riches, andget as far as Zuni Pueblo

1821 American traders begin coming to Santa Fe; their route was the Santa Fe Trail

1598 Juan de Oñate brings Spanish settlers into New Mexico and sets up the first capitol of New Mexico near San Juan Pueblo

1846 Kearny occupies New Mexico and claims it for the United States

3B. As a class, put the elements below parallel to the timeline for the Pueblo people. Have the students, as individuals or small groups, do research to find out additional famous or interesting things that were happening in other parts of the world. Ask them to consider whether any of those events affected New Mexico or their life today.

Who were the first groups of people to use each of these things, when, and where did they live:

Writing

Metal

Gunpowder

Wheat

Glass

Maize

Chocolate

4. As a class, or as individuals or small groups, ask the students to make up a reasonable time line for the future. How would each student want to affect the course of history?

RESOURCES

School textbook on New Mexico history

Dozier, Edward P., *The Pueblo Indians of North America*, Waveland Press, Prospect Heights, IL, 1983

Fugate, Francis L. and Roberta B., *Roadside History of New Mexico*, Mountain Press Publishing Company, Missoula, MT, 1989 (ISBN 0-87842-242-0)

Jenkins, Myra Ellen, and Schroeder, Albert H., *A Brief History of New Mexico*, University of New Mexico Press, Albuquerque, 1978 ISBN 0-8263-0370-6)

Sando, Joe S., *Eight Centuries of Pueblo Indian History*, Clear Light Publishers, Santa Fe, NM, 1998 (ISBN 0-940666-17-0) ***

Sando, Joe S., *Pueblo Profiles—Cultural Identity Through Centuries of Change*, Clear Light Publishers, Santa Fe, NM 1998 (ISBN 0-940666-40-5)

Silverberg, Robert, *The Pueblo Revolt, University of Nebraska Press*, Lincoln, 1994 (ISBN 0-8032-9227-9)

*** Available for loan from Bandelier, (505) 672-3861 x 517

Web Resources:
Bandelier website: www.nps.gov/band

Bandelier museum collection website: www.cr.nps.gov/museum/exhibits/band or go to the Bandelier website and click on the collections icon

Other useful websites:
(note: Bandelier makes no claims on the accuracy of these sites)

Albuquerque' s Environmental Story: (includes information on area history): www.cabq.gov/aes/s3pueblo.html

Information on many aspects of the history of peoples of New Mexico: www.cybergata.com/native.htm

General information on Native American peoples of New Mexico: www.newmexico.org/nativeamerica/index.php

Teacher Answer Sheet

1. List at least 3 different types of dwellings the people lived in:

Rock shelters **caves** **pithouses**
Open sites **large villages** **smaller villages**
Temporary structures **permanent structures** **surface homes**
Community villages **temporary campsites** **large villages**
Above-ground masonry dwellings **cave rooms** **On mesa tops**
On cliffs and canyon bottoms

2. Describe at least 3 different ways that they obtained food

Hunting, Farming, Foraging (gathering)

3. Describe at least 3 different tools or weapons they used.

Atlatl **bow and arrow** **knives**
Chipping tools **baskets** **stone mauls**
Looms **axes** **pottery**
Grinding stones (manos and metates) **scrapers**
Pottery **digging stick**

4. Name at least 3 ways they farmed, and the crops they had before the Spanish came.

Locations with loose soil
Dry farming
Hand-carrying water to crops
Irrigation ditches, terraces, and checkdams
Small irregular plots
Small favorable spots

Crops they had before the Spanish came: **corn, beans, squash, cotton**

5. Name at least 3 things they used for trade and 3 things they traded for.

They used for trade:

Obsidian **turquoise** **painted pottery**
biscuitware **Glazeware** **woven items**

They traded for:

Seashells **coral** **parrots**
copper bells **Pottery** **cotton**

6. Name at least 2 things that they continued to do over several time periods.

Hunting **farming** **making homes**
gathering
Making pottery **weaving** **making tools**
trading

7.Name at least two things that changed when the Spanish people came.

European world view **Catholic religion** **new crops**
New domesticated animals **metal tools** **silversmithing**
Wheel **name "Pueblo"** **recorded history**
diseases

STUDENT WORKSHEET

1. List at least 3 different types of dwellings the people lived in

2. Describe at least 3 different ways that they obtained food

3. Describe at least 3 different tools or weapons they used.

4. Name at least 3 ways they farmed, and the crops they had before the Spanish came.

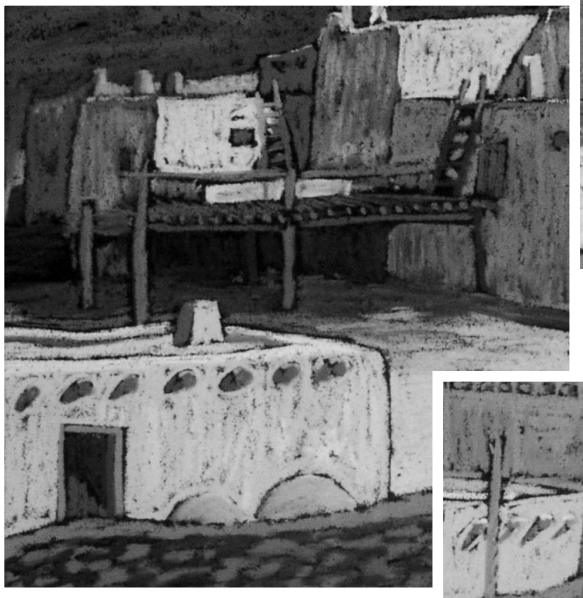
5. Name at least 3 things they used for trade and 3 things they traded for.

6. Name at least 2 things that they continued to do over several time periods.

7. Name at least 2 things that changed when the Spanish people came.

Lesson Plan: Be An Ancestral Pueblo Architect

Students gain greater understanding of the archeological sites in Frijoles Canyon by drawing and/or building models of structures similar to those used by the Ancestral Pueblo people in the 1300s – 1500s.



Location: classroom
Suggested group size: whole class, divided into small groups
Subject(s): history, art, language arts, math
Concepts covered: architectural components, scale, designing living spaces, mapmaking
Written by: Chris Judson, Bandelier National Monument
Last updated: 10/2005

Student outcomes: At the end of this activity, students will have greater insight into the methods used by Ancestral Pueblo people for designing and building their homes and other structures, and into the purposes for the different kinds of buildings.

EDUCATIONAL STANDARDS

New Mexico Standards

Art

Content Standard 6: Show increased awareness of diverse peoples and cultures through visual and performing arts.

Visual arts: Grade K-4

2. Create art that reflects New Mexico cultural and historical influences.

Content Standard 8: Contribute to communities by sharing expertise in dance, music, theatre/drama, and visual arts by participating in the activities of cultural institutions.

Visual arts: Grade K- 4

C. Contribute to community culture by exhibiting art work.

1. Participate in school or community sponsored opportunities for art display.

Language Arts

K-4 Benchmark III-B: Identify and use the types of literature according to their purpose and function

Grade 4

4. Compose fiction, non-fiction, poetry, and drama using self-selected and/or assigned topics and forms.

K-4 Benchmark III-E: Describe how economic, political, cultural, and social processes interact to shape patterns of human populations, and their interdependence, cooperation, and conflict.

Grade 4

1. Describe how cultures change.

3. Describe types and patterns of settlements

4. Identify the causes of human migration.

K-4 Benchmark III-E: Describe how economic, political, cultural, and social processes interact to shape patterns of human populations, and their interdependence, cooperation, and conflict.

3. Describe types and patterns of settlements

Standard 2 Grades K-4: The history of students' own local community and how communities in North America varied long ago

2A: The student understands the history of his or her local community

Grade K-4: Examine local architecture and landscape to compare changes in function and appearance over time. (draw upon visual data)

Standard 3 K-4: The people, events, problems, and ideas that created the history of their state

3A: The student understands the history of indigenous peoples who first lived in his or her state or region

Grade K-4: Draw upon data in paintings and artifacts to hypothesize about the culture of the early Hawaiians or native Americans who are known to have lived in the state or region, e.g., the Anasazi of the Southwest, the Makah of the Northwest coast, the Eskimos/Inupiat of Alaska, the Creeks of the Southeast, the Mississippians (Cahokia) or the Mound Builders (Formulate historical questions)

Grade 3-4: Compare and contrast how Native American or Hawaiian life today differs from the life of these same groups over 100 years ago (Compare and contrast differing sets of ideas)

I. Culture

Early Grades
a. explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns

Middle Grades
a. compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns

c. explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture

III. People, Places, and Environments

Middle Grades
g. describe how people create places that reflect cultural values and ideals as they build neighborhoods, parks, shopping

English Language Arts

7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.

MATERIALS

Activity 1:

Packet of brochures from parks having Ancestral Pueblo structures

Drawings of buildings and floor plans

Activity 2A, B, C

Bandelier brochure

Some combination of stones, clay, mud, sugar cubes, frosting, twigs,

Dowels for building model structures

Paper and crayons/markers/pencils for drawing

Rulers for planning scale

Rawhide dog chew (unused)

Newspapers or butcher paper

Space for models to dry

Extension Activity 2

Chalk or masking tape

String

VOCABULARY

Archeological site: a place showing evidence that people have used it; often the remains of buildings

Archeologist: a scientist who studies people, usually from the past, by looking at things and places that they used

Architecture: making buildings in a particular style

Artist conception: a drawing made to show a scene that cannot be shown by a photo or painting made at the time. The artist works with archeologists, etc, to make the drawing as accurate as possible using available evidence

Lintel: the beam placed at the top of a door or window opening to support the wall above the opening

Mortar: clay, adobe, etc used to hold bricks or stones together when building

Reconstruction: to rebuild a building, usually to look as it had originally

Tuff: compacted volcanic ash stone, which is soft and crumbly

Viga: Spanish word for a roof beam

PRE AND POST-EVALUATION

Pre-Evaluation:

Ask the students individually to make a drawing of what kind of buildings the Ancestral Pueblo people in Bandelier would have built. Ask them to add labels of what the materials were and what the building(s) use was. Collect the drawings and save for later.

Post-Evaluation:

When the structures are dry, have each group present their project to the class and explain why they made it the way they did and how the inhabitants would use it. Afterward, if possible, display them in a public space in the school (or elsewhere). Have the class design a title and caption for the overall project, and have the different groups write captions for their own structures.

The captions and display could also be done if the students made drawings rather than models.

Hand out the pre-evaluation drawings and ask the students to decide if there is anything about their drawing that they would change; you may or may not want to ask them to make the changes and share them with the class.

PROCEDURES: ACTIVITIES TO CHOOSE FROM

1. Using materials from Bandelier, brochures from other Ancestral Pueblo sites, xeroxes of drawings from books, or other resources, have the students collect images of buildings in archeological sites and artists' conceptions of what structures in those days probably looked like. See sources under "Resources" and the packet of park brochures available from Bandelier. Post them on the board, or use an opaque projector to project the images for the class. Discuss how the various ones are alike or different. Are all the rooms used for the same things? Are all the buildings made out of the same materials? Do you see

anything (flat roofs? squarish rooms? small rooms? houses joined together? use of ladders? low doorways? no chimneys until the Spanish came?) that are the same among all or most? Are there things that are different?

2A. Using the Bandelier brochure and the article, "Building Homes in Frijoles Canyon" in the newspaper in this guide, focus on the Ancestral Pueblo structures that were made in Frijoles Canyon in Bandelier in the 1400s.

Discuss:

- what materials they used for the walls, and roofs. (found in the article) (Walls: stone bricks, mud mortar, mud plaster. Roofs: pine beams, branches for latillas, mud over all. Addition: floors were made of mud plaster, polished to be smooth)

- where most room entrances were located, and what the people used to get in and out from roof entrances (found in the article and drawings) (Most room entrances were in the roof, and people came and went on ladders)

- how rooms along the cliffs were the same as those in Tyuonyi in the canyon bottom, and how they were different (found in the article - the way the homes along the cliffs are shown in the brochure isn' t quite right)(They had the same walls and roofs, but rooms along the cliffs had the cliff as a back wall, and often had cavates for back rooms)

- how kivas were the same as other rooms, and how they were different (found in the article) (The roof was made the same as other rooms, and they used a fire for heat and light. They were used for special activities rather than living, and were often round and under the ground.)

- where you think these functions would be done: sleeping, storing food, telling stories, teaching boys, teaching girls, weaving, grinding corn, eating meals, cooking (found in the article) (Sleeping, storing food, grinding corn, eating meals, teaching girls, and cooking would be in the house or sometimes outdoors. Teaching boys, weaving, and telling stories would often be in a kiva)

- what other activities can you think of that would have happened in the buildings? (think of what we do in our homes today)(Examples could include doing chores like mending, talking to people in your family, storing your possessions, sewing clothes, babysitting, etc)

2B. Divide the class into groups. Have individual students in one group draw each of the types of buildings found in Bandelier (a village with a plaza,

homes along the cliff, and homes along the cliff that are in a group like Long House) as they would have looked when in use. Omit the kivas, however, since Pueblo representatives have asked us to request that students not build or draw kivas. Have those in another group draw the floor plan for each of the three (see resource sheet at the end of this lesson). Have those in another group draw cutaways showing the room interiors. Or have each student do all three (a drawing of the outside, a floor plan, and a cutaway of one type) or the one(s) they prefer. Consider having the class determine ways to make all the drawings to the same scale. (see first section of list in 2C below) For a sample of a cutaway of a pueblo (this example is in the early 1900s), look in the Bandelier museum collection photos at www.cr.nps.gov/museum, drawing 672 by Pablita Velarde; consider printing it out. In the newspaper, notice the drawing of the woman in a cavate.

2C. Divide the class into groups, and have each group build a miniature model of one of the kinds of structures used by the Ancestral Pueblo people in Frijoles Canyon. If it is feasible, have them make all the models to the same scale. Consider having some of the groups do each type as a cutaway, showing walls, floor, and roof, but with one or two walls left off so the interior is visible, while others make the entire building, showing only the exterior. Handy hints:

- When planning buildings, consider a reasonable size for a room to be about six feet high by six feet wide by eight feet long (1.8 m x 1.8 m x 2.4m) ; some were bigger or smaller. To make the different buildings at the same scale, consider making them around ?" or 1" per foot (2.5 cm per 30 cm).

- Buildings at Bandelier were made of stones rather than adobe bricks. Home improvement centers or garden supply centers often carry bags of small volcanic stones in various colors at a reasonable cost if there isn' t a local source of pebbles.

- If using stones, try local clay, commercial clay, or play-doh-type clay for mortar. You may need popsicle sticks to spread it between layers of stones.
  Two recipes for self-hardening (play-doh-type) clay:
  1 cup flour, 1 cup water, 1/2 cup salt, 2 tsp cream of tartar, 1tb salad oil. Add water gradually to dry ingredients, mix well. Cook over low heat 3 minutes; store in airtight container in the fridge until ready to use

  4 cups flour, 1 ? cups salt, 1 ? cups water. Add water gradually to dry ingredients, mix well. Store in sealed plastic bag in the fridge until ready to use; allow to return to air temperature before using. When object is complete, allow it to dry at air temperature at least two days (not in direct sunlight)

- If you decide to use sugar cubes for bricks, you may find that using glue to fasten them together can be tricky because the glue melts the sugar. Frosting might be an alternative.

- Twigs or thin dowels can be used for vigas, and smaller ones for latillas. If you decide to have doors or windows in side walls of buildings, you will need to use sticks, dowels, or other small pieces of wood as lintels over the openings to support the stones above.

- If you want to make tiny ladders that are tied with rawhide the way some real ones were, get a rawhide dog chew, soak it in water until it is soft, untie the knot, and cut long thin strips from it. Rawhide is very soft and pliable when wet, then shrinks and becomes rigid when dry, so it works well for wrapping things tightly. Usually it becomes rigid enough that it will stay in place without having to tie it in knots or glue the ends in place; just wrap a thin strip a couple of times around the place where the rungs cross the uprights, and let it dry in place.

- Build each structure on a scrap of plywood or other base, so it can be moved without the damage that would be caused if it stuck to the table.

- You may want to check with the janitor before allowing clay or sand to go into sink drains while washing hands

- If you are planning a field trip to Bandelier, consider doing this as a post-visit activity.

EXTENSION IDEAS

1. If you are going on a field trip to Bandelier, or have gone on one, make a map of the homes in Frijoles Canyon. If the students made models in 2C above, put a long piece of newsprint or chart paper, or a couple of sheets of flipchart paper, on a long table or on the floor. If they made drawings, the long paper could be on a wall. Use the map in this lesson plan or in a Main Loop Trail guide to sketch a very simple layout of the canyon between the Visitor Center and the end of Long House; be sure to show the canyon walls and the creek. Determine the size of your map based on the size of the models or drawings the students have made in 2B and/or 2C above.

   Review with the students the kinds of structures they made - the village with a plaza, talus houses, and talus houses in a group. If they have been to Bandelier already, explain what the map represents and ask them where they saw each kind of structure when they were walking in the canyon. If they have not been there yet, point out the locations they will find these buildings. Place the drawings or models in their place on the map, representing the community

of people who lived in Frijoles Canyon. If they have not already discussed this in another lesson, ask the students which type and location of home they would choose to live in, and why.

2. Have each student draw a picture of what they think their house would look like if no one lived in it for 500 years. If you were an archeologist at that time, how could you figure out what these buildings looked like when they were in use? How is that different from what archeologists have available for learning about the Ancestral Pueblo people? (consider newspapers, photos, books, that show homes today) Would there be anything in your house that you think would confuse or fool those archeologists?(things like pizza cutters, colanders, electronic games, hula hoops, pagers, gummy bears, etc) Is there anything about the Ancestral Pueblo people' s homes that we might not understand? (why the doors are so small, why they made the houses so close together, why they made pictographs and petroglyphs, why some people lived along the cliffs and some lived in the canyon bottom, etc) Try the same approach with modern buildings other than homes, such as stores, schools, antique shops, or restaurants. (Would archeologists get confused if they found a building like an antique shop with things from all different dates and all over the world? Would they know that people had to pay for things from the supermarket? Would they know what a game arcade was for? Would they understand a basketball court? etc)

3. Using chalk or masking tape, measure out a square on the classroom floor or on the playground the size of a typical room in Ancestral Pueblo times; at Bandelier, the size would be around 6' x 7' (1.8m x 2.2 m). Have students pretend to do a typical activity, such as a family sharing a meal or an elder telling stories to a group of children, in the space. Remember that a typical adult of the time was just a little over 5' (1.5m) tall, and slender. Consider having other members of the class stand on opposite sides of the "room", stretching pieces of string between them to indicate the height of the ceiling, which in Bandelier was often only about 5' 8" (1.7 m) high. Can the students think of any reasons why they would choose to make their rooms that size? Archeologists don' t know either, but possibilities might include lack of furniture, ease of heating in winter, a small fire being the only source of light, and other factors you may come up with.

4. Many people tend to think of the Native Americans at the time they met Europeans as being less advanced than the Europeans, but many anthropologists feel that the quality of life of the inhabitants of the Americas at that time was at least as good, and probably better, than that of commoners in Europe. Have small groups of students research the types of housing being used in various communities in Europe (such as Rome, London, or Paris - remember, we' re talking about common people, not rich ones) at the time the

Ancestral Pueblo people were living in Frijoles Canyon. After they present their findings to the class, make a list of what the students perceive to be plusses and minuses of life on each side of the Atlantic, and decide which they would prefer. Besides housing, you may want to have them consider clothing, nutrition, education, and lifestyle, especially in regard to who made decisions and how much say people had over their own lives.

RESOURCES

Available for free loan from Bandelier: Packet of brochures from various parks showing Ancestral Pueblo structures and artists' conceptions

Books:

Gustafson, Sarah, *Exploring Bandelier National Monument*, 1997 (ISBN 1-87785-653-4) *** has drawings of structures and interiors

Swentzell, Rina, Children of Clay, *A Family of Pueblo Potters*, Lerner Publications, Minneapolis MN, 1992. (ISBN O-8225-9627-X)***

Joan K. O'Donnell, ed, *Here, Now, and Always—Voices of the First Peoples of the Southwest*, Museum of New Mexico Press, Santa Fe, NM, 2001 (ISBN 0-89013-387-5)***

Keegan, Marcia, *Pueblo Boy Growing Up in Two Worlds*, Cobblehill Books, Dutton, NY 1991 (ISBN 0-525-65060-1)****

Keegan, Marcia, *Pueblo Girls Growing Up in Two Worlds*, Clear Light Publishers, Santa Fe, NM, 1999(ISBN 1-57416-020-6)***

Noble, David Grant, *101 Questions About Ancient Indians of the Southwest*, Western National Parks Association, Tucson, AZ 1998 (ISBN 1877856-87-8) ***

*** Materials available on free loan from Bandelier National Monument, 505-672-3861 x 517

**** Out of print at this writing; limited number available for loan from Bandelier, or may be available through interlibrary loan

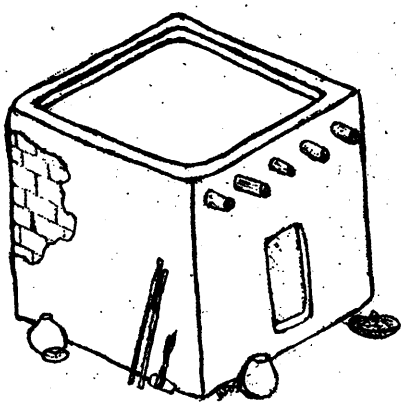
Web Resources:

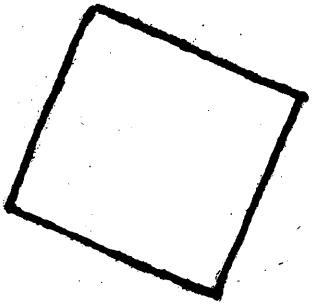
Bandelier website: www.nps.gov/band

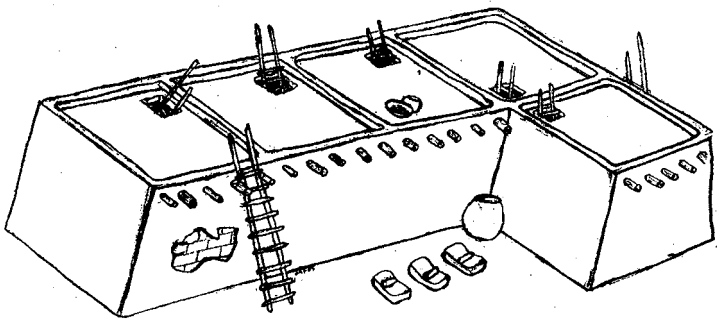
There are also general scenery photos of Bandelier on the web at photo.itc.nps.gov/storage/images/index.html.

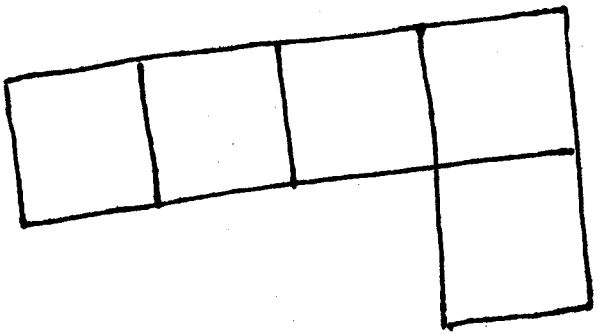
Bandelier museum collections: http://www.cr.nps.gov/museum/exhibits/band or go to the Bandelier website and click on the collections icon

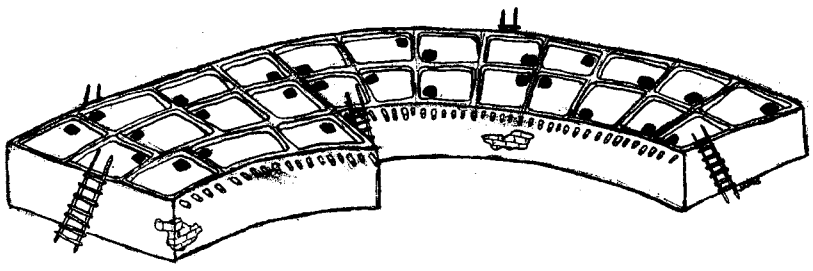
Ancestral Pueblo structures
and floor plans

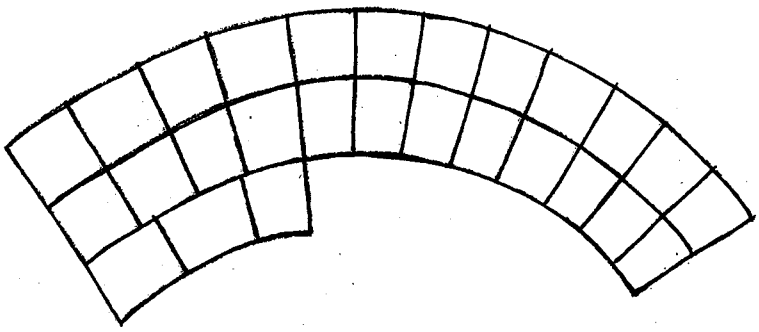




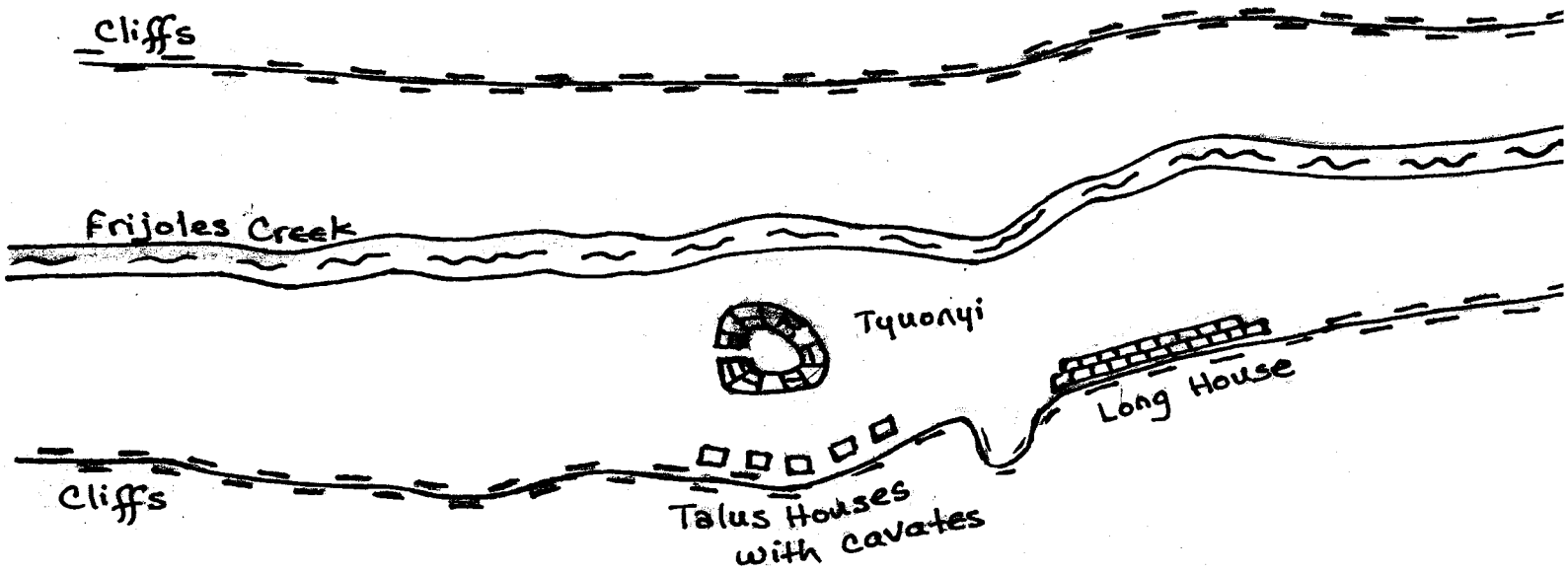








ARCHITECT ACTIVITES—Student Resource Sheet



Map of Frijoles Canyon

Lesson Plan: Living in the Community

Using the works of Pablita Velarde, students gain greater understanding of the many community roles in the culture of Ancestral Pueblo and Pueblo people and compare and contrast them with students' own.

Location: Classroom
Suggested group size: whole class, small groups, individuals
Subject(s): Social studies, history, community roles, art, home skills
Concepts covered: cooperation, community responsibilities, Pueblo crafts, changes in Pueblo culture over time, necessary jobs in a community
Written by: Lorencita Taylor, Cochiti Elementary/Middle School, Cochiti, NM, Angela Chestnut, St. Francis Cathedral School, Santa Fe, NM., and Carol McIntosh, St. Francis Cathedral School, Santa Fe, NM; edited and expanded by Chris Judson, Bandelier National Monument
Last updated: 10/2005

Student outcomes: At the end of this activity, students will be able to describe how the roles of people are shaped by their culture and environment, and how these roles change with changes in culture. Students will recognize changes in the pueblo culture from pre-European contact times to the 1940s and into the 21st century.

EDUCATIONAL STANDARDS

New Mexico State Standards

Language Arts
K-4 Benchmark I: Acquire reading strategies: Grade 4

Increase vocabulary through reading, listening, and interacting

Social Studies
K-4 Benchmark III-C: Be familiar with aspects of human behavior and man-made and natural environments in order to recognize their impact on the past and present.

l. Explain how geographic factors have influenced people, including settlement patterns and population distribution in New Mexico, past and present.

2. Describe how environments, both natural and man-made, have influenced people and events over time, and describe how places change.

Art
Content standard 4: Demonstrate an understanding of the dynamics of the creative process.

Visual arts: Grade 5—8:
A. Understand that works of art come from diverse personal and cultural experiences and inspirations.

1. Research and discuss instances in which history and culture affected specific public art in the local community.

NATIONAL STANDARDS

Standard 1A, Grades K-4: The student understands family life now and in the recent past: family life in various places long ago.

Grade K -4: Compare and contrast various aspects of family life, structures, and roles in different cultures and in many eras with students' own family lives (compare and contrast)

History
Standard 1A, Grades K-4: The student understands family life now and in the recent past: family life in various places long ago.

Grade K -4: Compare and contrast various aspects of family life, structures, and roles in different cultures and in many eras with students' own family lives (compare and contrast)

Background and Historical Context

In the late 1930s-early 1940s, Pablita Velarde of Santa Clara Pueblo was hired to do illustrations of Pueblo life for the museum at Bandelier National Monument. The work she did there depicts the life of early 20th-century Pueblo people as she remembered it from her childhood at Santa Clara, as well as various Pueblo groups' traditions she researched at the time she was working. Some of her paintings show composites of practices from several Pueblos rather than strictly portraying one particular group. The paintings were done to help visitors understand the Ancestral Pueblo sites at Bandelier, which are homes of people whose direct descendants live in pueblos along the Rio Grande in New Mexico today.

The Ancestral Pueblo people lived in what is now Bandelier before the Spanish came to New Mexico. They had no written language, but passed their traditions and knowledge from generation to generation by word of mouth. By the 1550s, the people had moved to new homes along the Rio Grande, and between then and now tremendous changes have gone on around them. Other cultures have come into the area, bringing different customs and different ways of life. Holding onto their own languages even as they learned Spanish and, later, English, the Pueblos have continued passing on their old traditions.

Pablita' s paintings show many roles within Pueblo society in the early- to mid-1900s, people doing many of the jobs necessary to keep the community strong. In addition, looking at the paintings and knowing what objects and materials were brought in by the Spanish and other newcomers to the area, we can consider what is old and what is new. This can give us a window into what life may have been like for the ancestral people. Knowing what materials have been in the culture throughout the centuries, we have a feeling for what jobs were done throughout the generations; new materials gave rise to new jobs. By looking at the combinations, we can get a feeling for the adaptations the Pueblo people have had to go through in order to keep their culture through all the changes. For the Ancestral Pueblo people the crops available were corn, beans, and squash, along with cotton grown at villages at lower elevations, and tobacco for ritual use. The only domestic animals were dogs, turkeys, and the very occasional parrot acquired through trade. Tools were made of stone, bone, and wood, and clay for pottery. Meat came primarily from hunting rabbits and deer, while wild plants provided food, medicines, and dyes. Cotton was hand-spun and woven into cloth.

In trying to find the Ancestral Pueblo culture within contemporary Pueblo culture, it is important to know that the list of materials available to the people now, but not prior to Spanish contact, includes:

horses,	wheat,	metals,	written language,	milk cows,
chiles,	glass,	books,	beef cows,	melons,
hay,	christianity,	churches,	saints' days,	goats,
apples,	sugar,	chickens,	tomatoes,	cucumbers,
fruit trees,	carrots,	sheep,	lettuce,	peas
non-religious leaders such as governors,				pigs,

In addition, it is important to think about what each of these things provided and what each required. For instance, horses and cows required winter feed, so it became necessary to cut and store hay. Sheep provided meat and wool, but needed to be tended. Cows provided milk and cheese. Wheat could be made into bread of the kind we are used to, but the baking had to be done in an horno, a beehive-shaped oven introduced by the Spanish. Harvesting wheat required tools that had never been needed for harvesting corn. Metal tools required that someone learn to be a blacksmith. By the 1860s, that skill expanded to the making of silver jewelry.

So, seeing these materials and related skills indicates post-contact influence, while anything employing skills and materials available before European contact may very well have survived from Ancestral Pueblo times. This can also be used when looking at myths and legends, many of which have picked up post-contact themes, and even characters, along the way.

For pueblo people past and present, being a part of a community is one of the most important values in each person' s life. They have always known that to survive, everyone must work together. Accomplishing any task takes the efforts and skills of several or many people with their various talents and types of knowledge.

MATERIALS

Colored pencils, drawing paper (unlined paper), glue sticks

Images from Bandelier online collection:

Art Work of Pablita Velarde:
- #672: Pueblo Views
- #654: Rabbit Hunt
- #647: Community Preparation of Rabbits for Cacique
- #662: Three Women Grinding Corn
- #670: Women' s Activities and Hairstyles
- #668: Pueblo Men' s Activities or others

You may want to check through all the items shown on the Bandelier collection, since this lesson topic is broad enough that you may find other useful ones besides the ones listed above.
Optional: color prints of images downloaded from Bandelier online collection, laminated, to be passed out for student use

FOR EXTENSION ACTIVITIES:

Diorama materials: air drying clay (see lesson "Making Pueblo Pottery" for recipes for play-doh-type clay), dowel rods (teacher can cut into useable lengths for "vigas"), 1inch thick Styrofoam (students can cut the Styrofoam into blocks with any serrated item – it does not have to be sharp), cardboard boxes for dioramas (students can select the size of box depending on their planned diorama), sand or dirt (students can use liquid glue to glue sand onto their forms made of Styrofoam or cardboard to simulate plaster)

VOCABULARY:

Adaptation: to change something to fit in better with its surroundings

Ancestors: people related to you who were born before you were; this could include your parents as well as people hundreds or thousands of years ago.

Ancestral Pueblo People: the ancestors of the present-day Pueblo Indians. Formerly called Anasazi, a Navajo word often translated as Ancient Enemies; it is offensive to many Pueblo people, and Ancestral Pueblo is preferred.

Bandelier: Bandelier National Monument, near Los Alamos, New Mexico. It was established in 1916 to preserve thousands of archeological sites related to the Ancestral Pueblo people, and was named for early anthropologist Adolph F.A. Bandelier

Cacique: the religious leader of a group; among old-time Pueblos, he often also settled disputes and made important decisions for the peoples' day to day life

Cliff dwellers: people who build their homes along cliffs. This location is often useful for defense or solar energy

Cultivating: farming, gardening

Culture: a group of people who share traditions, beliefs, and customs. Sometimes the word is used to mean the traditions, beliefs, and customs themselves, and things or activities related to them.

European contact: the point at which Ancestral Pueblo people meet and begin to be influenced by people from Europe, first the Spanish in the 1500s. Usually they are termed Pueblo once this contact has occurred

Environment: everything that surrounds a living thing, including other living things, the landscape, plants, water sources, etc

Habitat: a place where a creature or plant lives; a good habitat provides everything that a living thing needs, including air, food, water, space, and the right climate.

Harvest: the crops that have grown in a garden and are gathered at the end of the summer to use for food, such as corn, beans, and squash.

Horno: an outdoor oven shaped like a beehive, made of thick adobe bricks, for baking wheat bread. A fire is built inside, and when the insides of the walls are well heated, the fire is swept out, pans of bread dough are put in, a board is placed over the door, and the bread is left to bake until crusty on the outside, tender inside.

Kiva: a room used by Pueblo people past and present for teaching, meetings, and religious gatherings; mostly used by men; usually round and underground

Lifestyle: the way a living thing lives its life; especially among people, some groups may have very different lifestyles than others

Mano: the stone held in one or both hands to grind corn into meal on a metate.

Mesa: from the Spanish word for table; a part of a landscape that is much like a hill but flat on top, often with cliffs on the sides

Metate: the flat stone on which corn kernels are placed to be ground into meal; the grinding is done with a mano.

Native Americans: also often known as Indians. The people who were living on the North and South American continents before explorers from Europe and other places arrived, and their descendents.

Petroglyphs: drawings carved or scratched into rocks or cliffs

Plaza: an open space often found in the middle of a Pueblo village, used for many activities including ceremonial dances.

Pueblo: Spanish word for village, often used to mean a community of Native American people with particular customs, including farming, weaving, and making pottery, and their settlement. There are presently 19 pueblos in New Mexico, plus the Hopis in Arizona and Isleta del Sur outside of El Paso, Texas.

Roles: the jobs and responsibilities that people are expected to carry out in their families and communities.

Volcanic tuff: Crumbly rock composed of volcanic ash. At Bandelier, the canyon walls and mesas made of tuff that came out of two huge eruptions of the Jemez Volcano over a million years ago. The Ancestral Pueblo people shaped the soft stone into bricks to build their homes.

PRE- AND POST-EVALUATION

Pre:-Evaluation

1. As a class or in small groups, make a list of things that were different between the lives of Ancestral Pueblo people and people in the 1930s (as shown in Pablita Velarde' s paintings) or present time.

2. As a class or in small groups, make a list of jobs that Ancestral Pueblo people would have to do to keep their community going.

Post-evaluation:

1. Divide the class into two parts, one related to the Ancestral Pueblo people and the other related to pueblo life in the 21st century. Have each group come up with ways to help the class review their understanding of life in their time period through: writing and putting on a play set in their time period; making drawings of various roles in the society; dressing as people doing different jobs and having the other students identify them; making flashcards of objects that do and do not belong in their time and having the other students tell which are which; or posting a list on the chalkboard or bulletin board of various items and activities from one period for the other students to tell what is equivalent in the other time period.

2. As a whole class or in smaller groups, choose a Pueblo-related activity and look at the way it would have been done in a particular time period. Make an analysis similar to the one below of all the steps and all the jobs it would take to accomplish that activity; remember to stick with one time period, even though the activity might have been done long ago and still be done today. Try not to skip or miss any details. Some possible activities (among many) might include making stew (dried deer meat, dried squash, corn, beans, wild herbs, plus all the necessary preparations for cooking), being a dancer in a ceremonial dance, making a bow and arrows, or building a house.

Sample activity, 1930s

Baking Wheat Bread

Based on what you have learned about the roles of people in a pueblo in the 1930s and their responsibilities (roles/jobs), make a list of ALL the jobs people had to do in order to have bread. The list below is a beginning.

Horno
Making bricks:
Making tools to use, finding and digging the right soil, getting water,
Making a pot to carry the water (see jobs below for making the pot)
Making something to mix the soil and the water, making a mould for the brick, finding and preparing the wood to make the mould

Finding and preparing clay for mortar (as above)

Actual building:
learning how from someone, making a wagon to carry the bricks, loading the bricks, caring for a horse to haul the wagon, making mortar, making tools to spread the mortar, Fire, Gathering wood, Splitting and stacking, Starting the fire, keeping it going

Wheat:
Planting: making tools, preparing the soil, acquiring seeds, and digging an acequia to bring water

Cultivating: making tools to use, pulling weeds

Harvesting: making tools to use, making baskets to carry crops: learning how, knowing where and when to find the right materials, gathering the materials, making tools to cut the materials, making the basket

Grinding: making tools to use, or taking it to a mill, including making a sack to carry it, making a wagon to go there, getting and caring for a horse to haul the wagon

Mixing ingredients: making bowl in which to mix the ingredients – learning how, gathering clay, forming bowl, firing bowl; getting wood for firing, splitting, starting fire. Learning the recipe from someone. Getting all the ingredients - water: pottery to carry it in, and all the steps to make the pottery. Getting and preparing yeast. Lard. Salt.

Baking:
Making a tool to get bread in and out of the oven

Getting firewood

Making oven door
Knowing when the horno is hot enough for baking, and when the bread is done

Carrying, storing, distributing, serving, and eating the bread

An extra challenge:
see if the class can decide how many different individuals it would take to actually accomplish the task in question, since most people would have multiple skills and kinds of knowledge.

Does it make sense to the students that people often or usually live in communities? How could living in a community help tasks to be accomplished?

PROCEDURES: ACTIVITIES TO CHOOSE FROM:

1. Have the students imagine themselves as Pueblo people as depicted in Pablita Velarde' s paintings. Display for the class "A Look At Pueblo Life, #672", a painting done in 1941

   • Point out to the class these elements of Pueblo culture at that time, as depicted in the painting

   1. Multi-story building, common in pueblos

   2. Kiva

   3. Farm land

   4. Horno: describe the oven and explain its use
      Ask students to observe and comment on what they see in the painting, discuss all the activities depicted and identify who is doing each activity

      Have each student choose a role from the painting, visualize themselves doing it, and write a descriptive paragraph or story about their imagined experience in doing that role. Consider asking them to include interactions with other people in their village.

   Roles to identify in the painting:
   1. bread maker

   2. drummer

   3. butcher

   4. childcare giver

   5. farmer (no person shown, but hay and corn show that farming is happening)

6. corn grinder

7. builder

2. A picture is worth a thousand words:
Display for the class another of the Pablita paintings available in the Bandelier collection on the web (see specifics below)

Discuss with the class what they observe by asking the group questions about it. What roles do they see? How can they tell who is responsible for doing different jobs?

Divide the class into small groups, have each group choose another painting, and have students write their own questions that could be answered from the details in the painting. #668 and #670 are especially useful.

POSSIBLE QUESTIONS:

- How does the painting #654, "The Rabbit Hunt' depict how the environment affected the type of food available and the methods the people used to acquire their food?

  - In the painting, who are the ones acquiring food?
  - What are the hunters using to hunt the rabbits?
  - Describe the area in which they are hunting

- In the painting #647, "Community Preparation of Rabbits for the Cacique", who is doing what in the preparation?

  - What are they using to store and prepare the food?
  - What are they using to cook the food?

- In the painting #662. "Three Women Grinding Corn", who is shown grinding? Why would it be good to have company when you were grinding corn?

  - In #708, "Basket Making" who is making baskets?
  - In painting # 670, "Women' s Activities and Hairstyles" what are some of the activities shown?
  - What are some of the utensils being used?
  - How did the environment affect the types of tools and utensils used?

3. Roles in an Ancestral Pueblo village
Pablita drew activities in pueblos as they were done during her childhood and early adulthood, in the 1920s, 1930s, and 1940s. Pueblo people try hard to

hold onto their traditions and old ways, but as the world changes, some things in their lives change too. As a class, look at Pablita' s drawings and think of as many things as you can that are different than they would have been when the Ancestral Pueblo people lived here before they met the Spanish and other people coming from other cultures. Use the list under "Background" for reference.

Have the students either individually or as a class use this information to make:
A drawing or mural similar to the Pablita paintings they have seen, but set in Ancestral Pueblo times. Be sure to consider differences in clothing, tools, domestic animals, and crops.

4. Roles in a present-day Pueblo village
Use the book Pueblo Girls or Children of the Clay (available from Bandelier, 505-672-3861 x 517) to read to the class as an introduction to what life is like for Pueblo people now in the 21st century. Look at the Pablita paintings once more and, as a class or in small groups, think of as many things as you can that are different now from the way the Pueblo people lived in the 1930s and 1940s.

Have the students either individually or as a class use this information to make:
a drawing or mural similar to the Pablita paintings they have seen, but set in a pueblo now in the 21st century. Be sure to consider differences in clothing, transportation, furnishings, and ways of spending time.

EXTENSION IDEAS

1. Make a diorama
   - Have individual students or very small groups make a model of a pueblo structure in a box, including cutouts ("paper dolls") of people going about their everyday jobs. Be sure to identify the time period.

   - Or, if the class has been studying Bandelier or some other particular Ancestral Pueblo site, have each small group make a particular structure from that site and bring them together on a table or other location in the classroom to represent that actual community. (you may want to refer to the lesson "Be An Ancestral Pueblo Architect)

   - Invite a park ranger or archeologist to give a presentation about preserving artifacts so that future generations can appreciate the history of the area. This would include leaving artifacts where they are found, not moving or collecting them, and what can be learned from them. (see also the lesson plan, " What Can Pot Sherds Tell Us About the Past?")

2A. What are your roles in the many groups to which you belong? Discuss with class: while different students may belong to various diverse cultures, each of us also belongs to a school, community and national culture. What are our roles in each?

2B. Compare and contrast our roles with those of the Pueblo people depicted in the paintings. Have students draw themselves in at least one of their own roles:

- As a member of their family
- As a member of their religious/ethnic group
- As a member of their community
- As a student in their school (what is our role as students? What responsibilities do we all have as students in our particular school?)
- As a citizen of our city/state/nation

RESOURCES

Books:

Clark, Ann Nolan, *In My Mother's House*, Puffin Books, Troll Associates, New York, originally published 1942. many later editions***

Noble, David Grant, *101 Questions About Ancient Indians of the Southwest*, Western National Parks Association, Tucson, AZ, 1998 (ISBN 1877856-87-8) ***

O'Donnell, Joan K, *Here, Now, and Always, Voices of the First Peoples of the Southwest*, Museum of New Mexico Press, Santa Fe, New Mexico 2001 (ISBN 0-89013-387-5) ***

Ruch, Marcella J., *Pablita Velarde Painting Her People*, New Mexico Magazine, Santa Fe, NM, 2001 (ISBN 0-937206-65-2) ***

Spivey, Richard L., *Maria*, Northland Publishing, Flagstaff, AZ, 2003 (ISBN 0-89013-420-0)

Videos/DVDs:

Pablita Velarde: *Golden Dawn* (from De Colores on KNME) 24 min ***

Anasazi: (Hisatsinom)–The Ancient Ones (30 min) ***

Pablita Velarde, National Park Service Video, Cortez, Colorado, ***

*** Items marked with asterisks are available for free loan from Bandelier, 505-672-3861 x 517

Web Resources:

Bandelier National Monument: www.nps.gov/band

Museum Collections website: http://www.crnps.gov/museum

Library of Congress: http://memory.loc.gov/ammem

There are also general scenery photos of Bandelier on the web at: http://photo.itc.nps.gov/storage/images/index.html

Lesson Plan: What Would They Wear?

Students explore aspects of Ancestral Pueblo culture including agriculture, trade, community roles, and customs by learning about traditional clothing of the time.

Location: classroom
Suggested group size: whole class
Subject(s): history, art
Concepts covered: trade, community roles, traditions, use of native and domestic plants, clothing styles
Written by: Chris Judson, Bandelier National Monument
Last updated: 10/2005

Student outcomes: At the end of this activity, students will be able to identify some of the basic articles of clothing worn by Ancestral Pueblo men, women, and children, and what materials were used to make them.

EDUCATIONAL STANDARDS

New Mexico State Standards

Art

Content Standard 2: Use dance, music, theatre/drama, and visual arts to express ideas.

Visual arts Grade K-4

1. Identify similarities and differences in the ideas, customs and art of others

Content Standard 6: Show increased awareness of diverse peoples and cultures through visual and performing arts.

Visual arts Grade K-4

1. Determine the function of various works of art and artifacts within a specific culture.

Language Arts

Grade 4

K-4 Benchmark III-C: Be familiar with aspects of human behavior and man-made and natural environments in order to recognize their impact on the past and present

Social Studies

Strand: History

K-4 Benchmark III-B: Identify and describe the symbols, icons, songs, traditions, and leaders of local, state, tribal, and national levels that exemplify ideals and provide continuity and a sense of community across time.

Grade 4

1. Describe various cultures and the communities they represent, and explain how they have evolved over time.

NATIONAL STANDARDS

Visual Arts

5-8 Content Standard 4: Understanding the visual arts in relation to history and cultures

Students describe and place a variety of art objects in historical and cultural contexts

History

Topic 1 Living and Working Together in Families and Communities, now and long ago

Standard 2B Grades K-4: The student understands how communities in North America varied long ago

Grade K-4: Compare and contrast the different ways in which early Hawaiian and Native American peoples such as the Iroquois, the Sioux, the Hopi, the Nez Perce, the Inuit, and the Cherokee adapted to their various environments and created their patterns of community life long ago. (Compare and contrast differing sets of ideas)

Topic 2: The History of Students' Own State or Region

Standard 3 K-4: The people, events, problems, and ideas that created the history of their state

3A: The student understands the history of indigenous peoples who first lived in his or her state or region

Grade K-4: Draw upon data in paintings and artifacts to hypothesize about the culture of the early Hawaiians or native Americans who are known to have lived in the state or region, e.g., the Anasazi of the Southwest, the Makah of the Northwest coast, the Eskimos/Inupiat of Alaska, the Creeks of the Southeast, the Mississippians (Cahokia) or the Mound Builders (Formulate historical questions)

Grade 3-4: Compare and contrast how Native American or Hawaiian life today differs from the life of these same groups over 100 years ago (Compare and contrast differing sets of ideas)

Standard 7: Selected attributes and historical developments of various societies in Africa, the Americas, Asia, and Europe

Grade 3-4: Investigate the ways historians learn about the past if there are no written records (Compare records from the past)

Grade K-4: Compare and contrast various aspects of family life, structures, and roles in different cultures and in many eras with students' own family lives (Compare and contrast)

Geography
As a result of their activities in grades K-12, all students should understand:

K-12.4 Human systems

11. the patterns and networks of economic interdependence on earth' s surface

Social Studies
I. Culture

Early Grades
a. explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns

Middle Grades
a. compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns

c. explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture

English Language Arts
1. Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, class, and contemporary works.

7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.

MATERIALS

From Bandelier: contact 505-672-3861 x 517:
Pueblo clothing kit, containing manta dress, kilt, necklaces, earrings, sashes, and photos showing how they are used

Prints of Pablita Velarde paintings 645, 664, 674, 676, 1739b

Bandelier brochure

Books (find complete sitations at the end of the lesson plans):
Exploring Bandelier

Pueblos of the Rio Grande,

Southwestern Indian Tribes

Illustrations in newspaper in curriculum guide,
"Pueblo People Past and Present—An Introduction to Who Lived in Bandelier"

BACKGROUND

When we think of Native American clothing, buckskins and furs often come to mind. People are often surprised to find that the Ancestral Pueblo people in what is now northern New Mexico were most likely to be wearing garments woven of cotton, with turkey feather blankets, rabbitskin blankets, or perhaps furs for cold weather. Buckskin clothing was more often found in pueblos that had a lot of contact with Plains groups, such as Taos.

For the people in what is now Bandelier, cotton had to be obtained by trade, since the 6000' elevation made the summers too short for cotton to mature. Evidence indicates that cotton was being grown in the Española valley and on down the Rio past Albuquerque and Socorro.

Tradition suggests that men did the spinning of the raw cotton to make thread. Then they set up looms, often inside of kivas, to weave the cloth. Men also wove the bright-colored sashes that held the dresses and kilts around the wearers' waists. These were usually cotton; a few sashes made of dog hair have been found, but not around Bandelier.

In present-day pueblos, there are both black and white manta dresses, usually made from commercially-produced cloth. They are often embroidered along the hem, the top edge, and the side edge for use in ceremonial dances. Some pueblos have a distinctive manner of folding mantas when they are not in use, which produces a desired pattern of creases. Under-dresses of calico, often decorated with lace, are often worn under mantas. In some cases the calico dresses are worn alone.

Men' s dance kilts, which are usually white, are often embroidered. There are also men' s kilts made of buckskin, which are painted and often have tin cones attached along the hem, that are used in certain dances. Kilts are often put on so that the open edge is on the wearer' s right side, but for some kinds of kilts, or in some pueblos, or for certain dances, that may vary.

For many current uses, sash belts are woven of cotton, but wool or acrylic yarns are also used. The designs continue to be woven in, rather than embroidered. Traditionally they are red, black, and green, sometimes with white, but now sometimes you may see different combinations of colors as well. For many dances men wear a wide white cotton sash with fringes that include white cotton balls.

VOCABULARY

Apparel: clothing

Barter: trading an object for something you want without use of money

Breechclout: an item of clothing common all over the Americas (and much of the rest of the world at one time or another), which could consist of an apron front and back, or a long strip of material that went over the belt in front, between the legs, over the belt in the back, and hung down front and back.

Culture: a group of people who share traditions, beliefs, and customs. Sometimes the word is used to mean the traditions, beliefs, and customs themselves, and things or activities related to them.

Embroidery: making designs by sewing threads onto fabric in a pattern

Kilt: a garment worn by Ancestral Pueblo men and boys and still worn in Pueblo dances today, consisting of a rectangle of cloth wrapped around the hips and extending to the knees, usually fastened around the waist with a sash

Loom: a device for weaving cloth

Manta: Spanish word for a piece of cloth, from the verb that means "to cover"

Sash: a woven belt, often with woven patterns along the length and fringe on the ends

Trade goods: items carried by traders to sell or barter somewhere else

Tradition: the way a particular group of people chooses to do something, often passed down through many generations

Turquoise: a soft stone, found in varying shades of blue to green, popular for making jewelry throughout the southwest past and present. There is a source south of Santa Fe near Cerrillos, which has been mined for hundreds or thousands of years.

PRE- AND POST-EVALUATION:

Pre-evaluation:

1. With the whole class, brainstorm about what kinds of clothing the Ancestral Pueblo people wore and what the items were made from.

2. Have the students look through books, the internet, the drawings in the newspaper "Pueblo People Past and Present" in the curriculum guide, the drawings on the Time Line, etc, and find examples of traditional Native American clothing. Make a class collage with copies of the images, labeling each as to whether it is likely to have been worn by Pueblo people past or present and, if possible, which tribes the others pertain to.

Post-evaluation:

1. Look back at the list and see which items were missed and which items on the list are not typical of Ancestral Pueblo people

2. Look back at the collage and see if any of the labels need to be changed and if any items need to be added.

PROCEDURES: ACTIVITIES TO CHOOSE FROM

1A. Divide the students into pairs and give each a Bandelier publication (the color brochure, the book "Exploring Bandelier National Monument", or the curriculum guide newspaper) and ask each group to focus on the clothing that the Ancestral Pueblo people are wearing. Have the class discuss what they found. The students will notice three garments: women' s dresses that go up over the right shoulder and under the left; breechclouts (also called loincloths) worn by either men or women during some periods; and kilts, worn by men wrapped around their hips and secured by a sash. In addition they may notice moccasins and sandals. For this lesson we' ll concentrate on the dresses and kilts.

1B. Discussion: ask the class if there is anything they had expected to see that isn't in the pictures (such as headbands, feathers, paint, leggings, fringe). There are a lot of details we aren' t sure about the clothing at Bandelier. Headbands might have been useful when doing hard work, or they might have tied their hair back into ponytails or knots. Feathers would generally only have been worn as part of costumes for ceremonial dances, and the same with paint. Leggings are traditional with some present-day Pueblos, such as Taos, that have ties with tribes from the Plains. Fringe is a common way to finish an edge when working with leather, and was common among Plains groups, but doesn' t work well with cotton cloth because it unravels the weaving.

1C. Have small groups of students look through the prints of the Pablita Velarde paintings, the book, *Here, Now, and Always,* the drawings in the newspaper, "Pueblo People Past and Present," in the curriculum guide, the drawings in the trail guide, *Pueblo Girls Growing Up in Two Worlds, Southwestern Indian Ceremonials, and Southwestern Tribes* to see what examples they can find of the people wearing the manta dress or kilt, either in the plain everyday style or the fancier ones used for dances. Use the Pablita paintings that show dances to compare and contrast daily clothing with ceremonial clothing.

2. Unpack the manta dress (the larger piece of cloth) and the kilt from the clothing box, along with the sash, earrings, and necklace. Get a boy and a girl volunteer to go to the front of the class to "model" the clothing. The dress and kilt will fit over the students' clothes unless you choose an unusually large student.

Dress: follow the steps as shown in the photos in the notebook. Be sure that the cloth goes up over the right shoulder. Add the earrings (put the loops over the tops of her ears) and necklace. If you let the student handle the necklace, there' s less problem with getting it tangled in her hair.

Kilt: follow the steps as shown in the photos in the notebook. If possible, dress the two students one after the other, so both can use the red belt. If you wish to have them both dressed at once, use the white belt for the boy. Have the kilt' s open edge be on the boy' s right side. You may need to emphasize that this is a kilt, not a skirt. Add the earrings and necklace. You may want to mention that many men in our culture wear earrings and/or necklaces nowadays, and it was probably even more common then.

If you wish, take a photo of the students in the clothing.

3. Ask the students individually to draw a picture of themselves as they might have been dressed if they had lived in Ancestral Pueblo times. Have them label the items of clothing and what material each was made from. Ask the class to vote on whether they would rather wear the styles from then or now, and why.

EXTENSION IDEAS

1. Have the students research what kinds of clothing people wore in various communities in Europe and other places in the world at the time the Ancestral Pueblo people were living in Frijoles Canyon. Possible choices might include Athens, Rome, London, Paris, Beijing, Tokyo, Nairobi, and New Delhi . Copy images to share with the class. Talk about what materials and skills would be necessary to make the various items of apparel, and what climate they were designed for. Ask if the students would rather wear any of those kinds of clothing, or that worn by the Ancestral Pueblo people, and why.

2. Have the students research what kinds of clothing were traditional for other tribes in the Southwest or in other parts of the country. If possible, identify each clothing style with the tribe/culture/language group it belongs to. Ask the class if they know of any occasions when Native Americans wear these clothes today. (It is common at pow-wows to see traditional dress from many groups. Students in Santa Fe may have seen the costume exhibitions and contests at Indian Market. Others may have attended the Gathering of Nations in Albuquerque or the Gallup Inter-Tribal Ceremonials. Members of various groups may wear traditional clothing to important occasions at the State Capitol, school graduations, dance demonstrations at the State Fair or elsewhere, and crafts fairs. Students may have attended traditional dances at pueblos or other tribes' locations.)

RESOURCES

Books

Bahti, Tom and Bahti, Mark, *Southwestern Indian Ceremonials*, KC Publications, 1997 (ISBN 088714-097-1)***

Bahti, Tom and Bahti, Mark, *Southwestern Indian Tribes*, KC Publications, 1997 (ISBN 088714-097-1) ***

Gibson, Daniel, *Pueblos of the Rio Grande*, A Visitor's Guide.

Rio Nuevo Publishers, Tucson, AZ, 2001 (ISBN 1-887896-26-0) ***

Keegan, Marcia, *Pueblo Girls, Growing Up in Two Worlds*. Clear Light Publishers, Santa Fe, NM, 1999 (ISBN 1-57416-020-6)***

O'Donnell, Joan K, ed, *Here, Now, and Always, Voices of the First Peoples of the Southwest*. Museum of New Mexico Press, Santa Fe, NM, 2001 (ISBN 0-89013-387-5) ***

*** Items available for free loan from Bandelier, (505) 672-3861 x 517

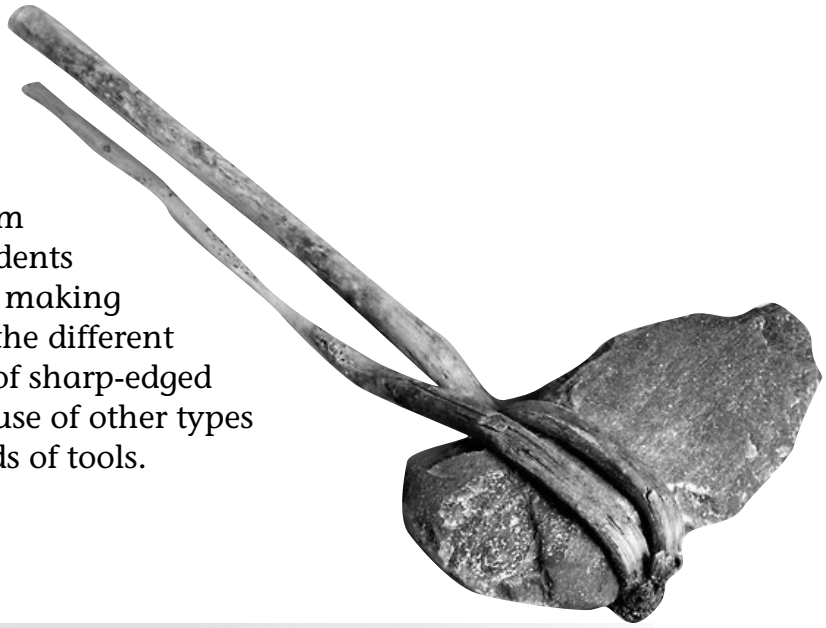
Web Information:

Bandelier website: www.nps.gov/band

Bandelier museum collection website: www.cr.nps.gov/museum/exhibits/band (or go to the Bandelier website and click on the collections icon)

Lesson Plan: Making Stone Into Tools

Through observation of replica points and photos of the production process, and/or watching a film on flintknapping, students will learn the steps in making projectile points and the different uses of various types of sharp-edged lithics, as well as the use of other types of stone for other kinds of tools.



Location: classroom, and/or a museum if possible
Suggested group size: individual, small groups, and whole classroom
Subject(s): archeology, anthropology, geology, history
Concepts covered: steps and methods for lithic production, uses of lithics, antiquity of use of stone tools
Written by: Chris Judson, Bandelier National Monument
Last updated: 10/2005

Student outcomes: At the end of this activity, students will know the tools, materials, and steps required for making flaked stone tools, and will know that different types of stone were suitable for different kinds of tools. They will understand that lithics varied by use, origin of the stone, group of people who made them, and the time and place in which they were made.

EDUCATIONAL STANDARDS

New Mexico State Standards

Language Arts

K-4 Benchmark I-D: Acquire reading strategies

Grade 4
5. Increase vocabulary through reading, listening, and interacting

K-4 Benchmark III-A: Use language, literature, and media to gain and demonstrate awareness of cultures around the world

Social Studies

Strand: History

K-4 Benchmark I-C: World: Students will identify and describe similar historical characteristics of the United States and its neighboring countries.

Grade 4
1. Explain how historical events, people, and culture influence the present-day Canada, Mexico, and the United States (e.g., food, art, shelter, language).

K-4 Benchmark I-D: Understand time passage and chronology.

Grade 4
1. Describe and explain how historians and archeologists provide information about people in different time periods.

K-4 Benchmark III-C: Be familiar with aspects of human behavior and man-made and natural environments in order to recognize their impact on the past and present

Grade 4
2. Describe how environments, both natural and man-made, have influenced people and events over time, and describe how places change.

NATIONAL STANDARDS

History

Topic 1 Living and Working Together in Families and Communities, now and long ago

Standard 2 Grades K-4: The history of students' own local community and how communities in North America varied long ago

2A: The student understands the history of his or her local community

Grade K-4: Describe local community life long ago, including jobs, schooling, transportation, communication, religious observances, and recreation (obtain historical data)

Standard 2B Grades K-4: The student understands how communities in North America varied long ago

Grade K-4: Compare and contrast the different ways in which early Hawaiian and Native American peoples such as the Iroquois, the Sioux, the Hopi, the Nez Perce, the Inuit, and the Cherokee adapted to their various environments and created their patterns of community life long ago. (Compare and contrast differing sets of ideas)

Topic 2: The History of Students' Own State or Region

Standard 3 K-4: The people, events, problems, and ideas that created the history of their state

3A: The student understands the history of indigenous peoples who first lived in his or her state or region

Grade K-4: Draw upon data in paintings and artifacts to hypothesize about the culture of the early Hawaiians or Native Americans who are known to have lived in the state or region, e.g., the Anasazi of the Southwest, the Makah of the Northwest coast, the Eskimos/Inupiat of Alaska, the Creeks of the Southeast, the Mississippians (Cahokia) or the Mound Builders

Social Studies

I. Culture

Middle Grades

b. identify and use key concepts such as chronology, causality, change, conflict, and complexity to explain, analyze, and show connections among patterns of historical change and continuity

English Language Arts

7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.

MATERIALS

Lithics kit from Bandelier: antler tools, replica point, raw materials, series of photos on pressure flaking, photos printed from Bandelier website

Optional: video on flintknapping (for loan from Bandelier)

BACKGROUND

Until the Spanish arrived in the New Mexico area, the Ancestral Pueblo people had no metal, but were skilled at using many other materials to make tools. Stone was often used for things that needed to be long-wearing or very sharp. Durable tools such as axes, hammers, and manos and metates were generally made of hard stones, by grinding them into the necessary shape. Tools for piercing or cutting, such as projectile points or knives, were usually chipped from stone such as chert or obsidian that form very sharp edges when they fracture.

The people who lived in the Bandelier area were ideally situated for making stone tools. Within a few miles southeast along the Rio Grande there were locations to find fine-grained basalt suitable for making some kinds of points. Only a little farther away, but to the northwest, on Obsidian Ridge and in the Valles Caldera, were sources for very fine-quality obsidian. The people sought obsidian not only for making tools for their own use but also as a valued trade item. Near Abiquiu, there are places on Pedernal Peak from which chert, a stone much like flint, has been dug for centuries. Chert was also available as cobbles that had washed down the Rio Grande and could be collected much closer to home. Granite from the Sangre de Cristo Mountains was also available in the form of cobbles, which were useful for such things as hammers and mauls. And just downstream from the village of Tyuonyi in Frijoles Canyon is a source for the kind of basalt that is ideal for hard-used tools such as manos and metates.

Obsidian is very much like glass, except it comes from a volcano instead of a factory. It is composed almost entirely of silica and is often translucent. It chips just like glass does, in rounded patterns called conchoidal fractures (named because they resemble seashells). And, perhaps most importantly, just like glass it can break with an extremely sharp edge, very useful for cutting and slicing (but not for chopping). In fact, current doctors sometimes use scalpels made of glass or obsidian for doing surgery on very sensitive organs, such as eyes and hearts, because such a scalpel is sharper than one made of steel. It will make a cut that

heals better and more quickly. That's why this lesson doesn't include actually making or using tools of glass or obsidian, because it is so easy to get badly cut.

Basalt is also volcanic, but with a different composition than obsidian, being low in silica. It is the hard, dark-colored rock that most people think of when they think of lava. Sometimes it is full of tiny bubble holes, called vesicles. It is harder to work with than obsidian, since it doesn't break so readily. That is also one of its big advantages, since it can be used to make tools that are used for such tasks as hammering and grinding.

All around Bandelier, in the area known as the Pajarito Plateau, the high pinkish-orange cliffs are composed of tuff. It is volcanic ash which poured out of the Valles Caldera as flows hundreds of feet thick. They gradually cooled into rock, called tuff, which is usually quite soft and crumbly. Later, rain and snow ran down the mountainsides, carving into the thick tuff layers and forming the sheer-walled canyons so characteristic of the Pajarito Plateau. Tuff was not useful for tools, but the people shaped loose stones into building blocks. They also carved small caves, known as cavates, into the cliffs for use as back rooms of houses (see the lesson plan "Be An Ancestral Pueblo Architect").

Minerals were commonly used for two other purposes by the Ancestral Pueblo people. Various kinds of pottery clay were found in different locations; some sources are still in use by present-day pueblo people. A variety of different minerals, including ochre, were used for colors for dyes, pottery decoration, and body painting for dances; they came from many different places, and some came by trade.

Surprisingly, stones were also used in farming. On many mesa tops there were areas that were naturally covered with a "blanket" of small pieces of tuff. These areas were particularly good for farming, because the tuff retained moisture from rain and snow. In other areas the people would gather small stones (gravel to egg-sized) and use them to cover the areas in their gardens where the plants were growing. The stones helped prevent the growth of weeds, limited evaporation of moisture from the soil, helped warm the soil in early spring, and sometimes even condensed water out of the air, which would then run down the rock surface and go into the soil around the plants.

For generations, people all over America have enjoyed hunting for arrowheads and other ancient stone tools in places where Native American groups had lived. Visitors are often surprised to hear that it is against the rules to collect them (or anything else, other than memories) in the park. Stone tools can be very valuable to archeologists trying to learn more about the early inhabitants of the area, but only if they are left where they are. Since the tools are made from materials that come from many places, and different versions of tools were made during

different time periods, these artifacts can provide good information when found in their original places. For scientists studying the very earliest (10,000+ years ago) people of the area, lithics are the only evidence of their presence, since all non-stone traces, such as shelters and clothing, have long since vanished.

VOCABULARY

Atlatl: a throwing stick used to propel a spear farther and with more force than just throwing with one's arm

Baton: flaking tool made from the thick base of an antler

Basalt: a hard, dense, durable volcanic rock often used for tools such as metates, hammers, and axes.

Cavate: small room carved into the cliff, often used as the back room of a talus house

Chert: stone similar to flint, used for making sharp-edged tools

Cobble: a stone that has washed down a river or stream; often they have become rounded along the way

Conchoidal: seashell-shaped fracture pattern found in obsidian and glass

Core: chunk of stone from which flakes are removed for making points, etc

Flake: thin piece of stone chipped from a core to be used to make points, etc

Granite: a hard, dense rock formed inside of mountains; in New Mexico, it is common in the Sangre de Cristo Mountains

Lithics: tools or other items made from stone, and the leftover scrap chips

Maul: a stone tool used much like a sledge hammer

Obsidian: volcanic glass; can be worked to have extremely sharp edges

Ochre: pigment found in various tones from yellow through red; color comes from iron oxice

Pajarito: Spanish for "little bird". Pajarito Plateau is the name for the area around Bandelier

Percussion: method of making sharp edges on lithics by striking one stone with another

Pressure-flaking: method of making sharp edges on lithics using pressure from tools made from antlers

Projectile point: stone shaped to have a pointed tip and sharp edges, to be the head of an arrow or spear

Tine: one of the points on an antler; can be used for pressure flaking

Tuff: compacted volcanic ash stone, which is soft and crumbly

Turquoise: a soft stone, found in varying shades of blue to green, popular for making jewelry throughout the Southwest past and present. There is a source south of Santa Fe near Cerrillos, which has been mined for hundreds or thousands of years.

PRE AND POST-EVALUATION

Pre-Evaluation:

Either as a class brain-storming session or as small groups or individuals, ask the students to make a list of all the things the Ancestral Pueblo people did that required the use of rocks/stones/minerals. Be sure to consider building as well as making tools, and there were other uses too. Remember that, until the Spanish came to the area, the people had no metal for toolmaking, and plastic wouldn't be around until centuries later.

Post-Evaluation:

Have the class re-visit their list, and see if they have different answers. As individuals, have them make drawings of themselves as Ancestral Pueblo people (or the local group in your area) and their home, showing as many stone tools as they were likely to have had. You could have a contest to see who comes up with the most (but they all have to make sense)

PROCEDURES: ACTIVITIES TO CHOOSE FROM

1. In small groups or as individuals, have the students compare and contrast the replica point with the samples of raw obsidian. What are some differences that show that one has been worked and the other is still just a rock? (points, knives, scrapers, etc., are chipped to make a sharp edge, while unworked pieces will have chips in miscellaneous places; points will be chipped to be thin and of consistent thickness, while unworked pieces tend to be thick and/or bumpy in such a way that they wouldn't function very well as a tool; worked pieces

tend to show an overall shape that suggests their intended use, while unworked pieces are often no particular shape)

2. Ask the class as a whole or as small groups to list all the qualities you would want in a good arrowhead or knife if you were an Ancestral Pueblo hunter or cook. Be sure that they include: it will hold an edge when being used; it can be re-sharpened; it will cut things easily; if your aim is good, an arrowhead will kill your prey cleanly instead of just injuring it; with practice you can readily make more.

3. Have the class watch all or part of the video on flintknapping (available for loan from Bandelier, 505-672-3861 x 517). Ask each student to write down two things that were new to them and two things that surprised them, and have some students share their lists with the class.

4. Using the timeline (see lesson plan "Making and Using Timelines"), book "Exploring Bandelier", and the newspaper, "Pueblo People Past and Present" included in this curriculum guide, have the students, as individuals or in small groups, do research into the history and use of stone tools in North America, with each attempting to find a tool from each of two different time periods. Ask them to make a large drawing of each tool and label it with what it is called, and other information they may find including what it was used for, what it was made of, what group of people used it, and when it was used. Have each group present their tools and information to the class, and post all the drawings on a wall or board in chronological order. Discuss: did different people at different times use similar tools? Were some tools used over a very long period of time by many different groups of people? If you were an archeologist and you found a particular tool in an archeological site, would it help you learn something about the people who lived there? If someone walking by had picked it up and taken it home, would part of the story of that place be gone?

5. If any of the students are gardeners, or help someone with a garden, ask them if they know of any present-day gardening methods that are similar to the use of rocks in gardens, or planting in an area covered with an absorbent layer of tuff. (possibilities: use of mulch or sheets of plastic to cut back on weeds; use of soil amendments that help the soil hold water more effectively)

6. Have the class as a whole or in small groups make a list of all the things they can think of that the Ancestral Pueblo people around Bandelier used that were made, entirely or in part, of stone. On a chart, divide them up into ones that should be made of:

basalt: hard and durable, obsidian: brittle and sharp,
tuff: soft and easy to shape, turquoise: soft, rare, and colorful,
clay: formed into many shapes and must be fired,
granite river rocks: hard and rounded.

Hints:
Basalt: manos and metates, axes, hammers, chisels
Obsidian: arrow and spear points, knives, scrapers
Tuff: bricks for building houses.
Turquoise: jewelry (earrings, pendants, beads)
Clay: pottery, slip for decorating pottery, paint for ceremonial dances.
Granite river rocks: hammers, mauls, pottery-polishing stones

7A. As a class discussion, ask the students what they could learn if they were archeologists studying a particular location in Bandelier, and found a tool that they knew was a kind made 800 years ago, used for skinning deer, and made from obsidian that came from the Jemez Mountains. Then ask them what they could learn if they were visiting a friend who showed them a tool made 800 years ago, used for skinning deer, and made from obsidian that came from the Jemez Mountains, and it was sitting on the desk in his room. (In the first case, the archeologist would probably conclude that someone had lived in that location 800 years ago who hunted deer and either went up to the Jemez Mountains to get obsidian to made tools, or traded with someone who did. This would suggest trade or travel routes from Bandelier into the mountains, which in turn would suggest that the people had a wide knowledge of their landscape and/or other groups to trade with. It would also suggest the good possibility that the people who lived in the area at that time had weapons good enough to kill a deer, and the likelihood that they used the deer's skin as well as the meat. In the second case, all you could learn was that, because the tool had been removed from its original location, a wonderful opportunity to learn about the early people had been lost forever.

7B. As a class discussion (or a writing assignment) ask the students if they would be more proud to have a collection of arrowheads they had found or a collection of arrowheads they had made, and why. (Arrowheads they had found would have had to be removed from their provenience, their location in relation to other parts of the story of the people who made them. This would not only make it impossible to fully understand the lives of those people, it would also be disrespectful to their present-day descendants. Arrowheads they had made would truly be something to be proud of, since they would reflect patience, perseverance, and the willingness to work hard and practice to learn an age-old skill. Of course it would be important to make it clear to anyone who saw them that they were not old ones. Many

people who make arrowheads and other chipped items today make them out of colored glass so they are not only beautiful, but also obviously not old.)

EXTENSION IDEAS

1. Take a field trip to a site or museum that features Ancestral Pueblo lithics (or the lithics local to your area, if not Pueblo). Use their written or posted material, or arrange for a guide if possible, to identify the dates, uses, and materials of lithics on display. Consider using this trip to also do the activities in the "What Can Pot Sherds Tell Us About The Past" lesson.

   Please also see lesson plan "Field Trip Activities: Pueblo Culture Yesterday and Today" for information and ideas on planning a terrific field trip.

RESOURCES

Books:

Panchyk, Richard, *Archeology for Kids, Uncovering the Mysteries of Our Past*, Chicago Review Press, 2001(ISBN 1-55652-395-5)
(available for loan from Bandelier, 505-672-3861 x 517

U.S. Department of the Interior, *Intrigue of the Past, Discovering Archeology in New Mexico*, manual of Project Archeology; for information on workshops, contact the Heritage Education Team, Bureau of Land Management, Anasazi Heritage Center, PO Box 758, Dolores, Colorado, 81323, (303) 882-4811

Video:

Flintknapping, with Bruce Bradley Ph.D. an expert tool-maker takes viewers through all the steps in making a whole series of tools from obsidian. (Available for loan from Bandelier, 505-672-3861 x 517)

Web Information:

Bandelier website: www.nps.gov/band

Bandelier museum collection website: w.c.nps.gov/museum/exhibits/band or go to the Bandelier website and click on the collections icon.

Lesson Plan:
What Can Pot Sherds Tell Us About the Past ?

Students discover the importance of pieces of broken pottery by using them to find out how archeologists determine when sites were inhabited and other information about the ancient people who used them.

Location: classroom: possibly at an archeological site
Suggested group size: individuals, small groups, whole class
Subject(s): history, social studies, archeology, art, drama
Concepts covered: chronology and how that relates to archeological dating, archeological preservation; diversity in pottery designs
Written by: Chris Judson, Bandelier National Monument
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Student outcomes: At the end of this activity, students will understand how potsherds can be used to date archeological sites, and why it is important to leave them in place.

EDUCATIONAL STANDARDS

New Mexico State Standards

Social Studies

Strand: History

K-4 Benchmark I-A: Describe how contemporary and historical people and events have influenced New Mexico communities and regions

Grade 4

l. Identify important issues, events, and individuals from New Mexico pre-history to the present.

K-4 Benchmark I-D: Understand time passage and chronology.

Grade 4

1. Describe and explain how historians and archeologists provide information about people in different time periods.

K-4 Benchmark II-B: Distinguish between natural and human characteristics of place and use this knowledge to define regions, their relationships with other regions, and patterns of change.

Grade 4

1. Identify ways in which different individuals and groups of people view and relate to places and regions.

K-4 Benchmark I-D: Acquire reading strategies

Grade 4

5. Increase vocabulary through reading, listening, and interacting

Art

K-4 Content Standard 6: Show increased awareness of diverse peoples and cultures through visual and performing arts.

Visual arts

Grade K-4

A. Identify specific works of art as belonging to particular cultures, times, and places.

1. Determine the function of various works of art and artifacts within a specific culture.

2. Create art that reflects New Mexico cultural and historical influences.

3. Describe art from one' s own culture and the culture of others.

Grade 5-8
A. Compare and describe artwork of various eras and cultures

Theatre
A. Use body and voice to portray character that contributes to the action of a dramatization.

1. Demonstrate the ability to concentrate and stay in character for the duration of short improvised dramatizations.

NATIONAL STANDARDS

History
Standard 2 Grades: The history of students' own local community and how communities in North America varied long ago

2A: The student understands the history of his or her local community

Standard 3 K-4: The people, events, problems, and ideas that created the history of their state

3A: The student understands the history of indigenous peoples who first lived in his or her state or region

7A: The student understands the cultures and historical developments of selected societies in such places as Africa, the Americas, Asia, and Europe

Grade 3-4: Investigate the ways historians learn about the past if there are no written records

Social Studies
II. Time, Continuity, and Change

Middle Grades
b. identify and use key concepts such as chronology, causality, change, conflict, and complexity to explain, analyze, and show connections among patterns of historical change and continuity

d. Identify and use processes important to reconstructing and reinterpreting the past, such as using a variety of sources, providing, validating, and weighing evidence for claims, checking credibility of sources, and searching for causality

English Language Arts

7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.

Art

Theater

5—8 Content Standard 1: Script writing by the creation of improvisations and scripted scenes based on personal experience and heritage, imagination, literature, and history.

MATERIALS

Paper, writing utensils, including: crayons/markers/colored pencils; scissors; compasses for drawing circles

Potsherd set from Bandelier; available for loan from (505) 672-3861 x 517

Pottery puzzle packet: be sure the teacher keeps the piece in the separate envelope.

Article on pottery in curriculum newspaper, "Pueblo People Past and Present"

Photos of Ancestral Pueblo and present-day pottery, printed from the Bandelier collection

website: www.cr.nps.gov/museum or click on the collections icon on the Bandelier website, www.nps.gov.band

"Maria, Indian Pottery Maker of San Ildefonso" video or DVD, available for loan from Bandelier

Books listed in Resources section at end of lesson

BACKGROUND AND HISTORICAL CONTEXT

One of the things that has long been a hallmark of the pueblo culture is pottery. Although styles in different villages are distinctive in both form and decoration, most of the basic process for making the pieces is the same. The articles "Cooking With Clay" and "Maria Martinez" in the curriculum newspaper, the video/DVD about Maria, and several of the books listed under "Resources", provide a good introduction to present-day and Ancestral Pueblo pottery and pottery making.

For archeologists, pottery is something of a fortunate paradox. Pottery vessels break easily. But the broken pieces (or whole pots) are much less vulnerable to the ravages of time than are most other artifacts, such as items of wood or cloth. In addition, pots broke, and had to be replaced, very often. Because of this, styles of shapes and decorations changed more quickly over the centuries than did those of other crafts such as toolmaking or weaving. Potters use clay from local sources, and archeologists can recognize particular clays and where they were used. Over many years of work throughout the Southwest, archeologists have analyzed hundreds of styles and the locations where they are found, and related them to dates obtained by other methods for the same sites. This has led to a system in which researchers looking at a sherd or vessel can recognize its pottery type and know where and when it was made. Thus, when a pot or sherd is found at a site, it gives the researcher an idea of when people lived there and who they traded with.

Archeologists utilize several clues to recognize various types of pottery. Using a magnifying glass, they look at the broken edge of a sherd to see what kind of paste (the clay used for the body of the pot) was used. Paste can be coarse or fine, and may be different colors including white, gray, and orange. They also look to see what kind of temper was mixed in. At various times in different places, people have made temper out of things including sand of particular kinds, ground-up basalt, and ground-up potsherds. A few kinds of clay don' t need temper.

If the pot is decorated, they look to see if the potter used slip, which is clay thinned with water, or paint made from plants, or glaze made from minerals including lead. Decorations made with slip sit on the surface of the pot, ones made with plant paints appear to soak in, and glaze sits on the surface and is shiny and often runny.

Sherds alone, however, may not tell the correct story. Ancient people would sometimes keep old pots, much as we keep antiques. Or someone passing by long after a site was no longer inhabited might drop a pot, leaving sherds from a later time. Pottery dates are used in conjunction with other dating methods, such as Carbon 14, tree-ring dating, archeomagnetism, stratigraphy, and others to come up with the best idea of the actual dates a site was in use.

Unfortunately, one of the problems with getting accurate dates from pottery is caused by people nowadays who do not realize how much information is held in even just a tiny sherd. By collecting pieces that catch their fancy when they are walking through unexcavated sites, insensitive people remove important clues. When the site is studied, that part of the story is gone. Even worse, there are people who have little respect for science or for the ancient people and their present-day relatives, and will dig into a site with a shovel, or even a bulldozer, to try to find artifacts to sell. They do horrendous damage to the fragile information in the site, often desecrate graves, and remove items that do not belong just to them but are a part of the country' s history and the heritage of the Pueblo people.

Unless they are part of a formal archeological study, if potsherds are removed from their original location, they lose almost all their value as information. It is their relation to the site and each other, called the provenience, not just the sherds themselves, that tells the story. If you see a sherd on someone' s kitchen table, it is something like seeing a word that has been removed from a mystery novel. The more that are removed, the less likely that the detective (or the archeologist) can solve the mystery.

In addition, potsherds are not just valued by archeologists and history buffs. They are also important to present-day Pueblo people, for many different reasons. They know that these pottery pieces were made by their ancestors, and so they are an important part of their family heritage. They know that some of the pots were made to be used for ceremonial purposes, and were handled only in special ways by certain people. It seems that in some pueblos in the past, pottery was taken to certain places and deliberately broken, perhaps as some kind of offering.

When someone collects potsherds, their story is lost forever, the act of collecting may be an act of disrespect, and the person will probably just end up throwing them away anyway. When you go into a museum and see an ancient pot, there is a good chance that it was carefully studied by the scientists working in the site it came from, they have conferred with present-day Pueblo people about the propriety of having it on exhibit, or even in the museum collection, and they will use it to tell you the story of the people who made it.

The potsherds used in this lesson are ones that visitors to Bandelier collected and then later, realizing the error of their ways, returned to the park. Because there is no information about their place of origin, they are not useful for archeological study; thus they can be made available for educational purposes.

VOCABULARY

Archeomagnetism: a method of archeological dating based on the last date that clay in a firepit was exposed to the heat of the fire

Carbon 14: a method of archeological dating based on the rate at which Carbon 14 breaks down to Carbon 12

Dendrochronology: a method of archeological dating based on patterns of tree rings (see the lesson "What Can We Learn From Old Trees?")

Paste: the clay used to form the body of a vessel

Pollen analysis: a method of finding out what environment surrounded an archeological site when it was inhabited, based on what plant pollen is found

Potassium-Argon: a method of archeological dating based on the rate at which potassium converts to argon

Potsherd: piece of broken pottery (see also sherd)

Provenience: the relationship of a sherd or other item in an archeological site to everything else in the site, which provides its value for information

Slip: clay thinned with water to the consistency of paint, often used to decorate unfired pottery; it is used as the background color for the pot' s design

Sherd (sometimes spelled shard): a piece of a broken pottery vessel (see also potsherd)

Stratigraphy: a method of archeological dating based on finding items at different levels in a site where people lived over a long period; usually the deepest are the oldest

Temper: material, such as sand or ground-up pottery sherds, added to clay to help spread the heat evenly during firing.

Tree rings: circular growth patterns that form inside of tree trunks every year that a tree lives; they are wider in wet years, narrower in dry ones (see also "Dendrochronology ")

Vessel: an item of pottery, such as a bowl, jar, etc

PRE- AND POST-EVALUATION

Pre-Evaluation:

Ask the class what they would do if they were walking along and found an unexcavated archeological site with pieces of broken pottery lying about. Write the responses on flipchart paper and keep for later.

Post-Evaluation:

Divide the students into small groups and have each write a short play in which an archeologist encounters someone who is walking through a site, collecting potsherds to take home. What would they say to each other? Will they argue and get angry, or have a good discussion? Can the archeologist convince the visitor to act with better understanding, and enjoy the sherds where they are? Be sure that the dialog in the skit includes ideas about why broken pieces of pottery are dear to Pueblo people, how archeologists can use them to date the sites where they are found, and how even one sherd can change our understanding of the site. Have each group act out its play for the rest of the class. If the students are not familiar with writing plays, perhaps it could be done as a whole class activity, or as an exercise in story writing.

Bring out the pre-evaluation flipchart list and review it with the class. Do they still agree with what they said before? Do they have anything to add, delete, or change?

PROCEDURES: ACTIVITIES TO CHOOSE FROM

(Note: as an introduction to these activities, have the students read the article "Cooking With Clay" in the newspaper "Pueblo People Past and Present". It is only 2 pages long, so it could be xeroxed out as a one-sheet handout if you wish.)

1A. Looking at the potsherds in the frames, see if the students can recognize any of the clues that archeologists use to tell the different types apart. These clues include slip color, design color, design motifs, type of temper, type of paste, and its location when found.

1B. Looking at the dates on the sherd labels, imagine you are a team of archeologists trying to figure out when a site was inhabited, and you have found all these types of pottery there. What are the earliest and latest dates shown by the sherds? That can give you an idea of when people lived there, and for how long. Of course that only works if nobody has removed sherds from the site!

1C. If a sherd is decorated on the inside of the curve, or the inside and the outside, it is probably from a bowl. If it is only decorated on the outside of the curve, it

is probably a jar or olla. If it is bumpy on the outside of the curve and smooth on the inside, and doesn' t have painted decorations, it is probably a cooking pot. Using the sherds that are out loose, let each student choose a sherd they like, determine what shape of pot it probably came from, and make a drawing of what they think that pot might have looked like before it broke.

1D. With some sherds, it is possible for the students to determine roughly what size the pot was. Find a sherd with a noticeable curve. On a sheet of paper, draw a series of concentric circles, each about 1/2" to 3/4" larger in radius than the previous one. Take the sherd and see if the curve fits on any of the circles. If it does, you know how big around the pot was in the section where that sherd was located. If it is a rim, see if you can determine if it is from a bowl or a jar. The rim of a bowl is nearly the widest part of the vessel. The rim of a jar is probably considerably smaller than the widest part of the vessel.

2. Using the pottery jigsaw puzzle, distribute puzzle pieces to students and have them put together the drawing of a pot. Each student can fit their "sherds" into the right places to make the pot complete. (Almost complete! The teacher will keep the critical piece) Have students look at the almost complete pot and tell what they think it might be, how it was used, how it might have gotten broken, what methods an archeologist would use to tell who made it and if it was made locally or came here by trade, etc. After the discussion, the teacher reveals the last piece. What does that piece tell us? Point out how the lack of that one vital piece would cause archeologists to completely misunderstand what they had found. Work at an archeological site can be similar. If some passerby has walked off with even a small piece of pottery or other evidence, the information is incomplete and the conclusions can be far from accurate. Even little pot sherds are important!

3. Have each student draw a picture of a pot, in the colors and design they choose. These are not Pueblo pots, but the students' own. Have them decide what year it was made and where. Be sure each drawing is large enough to fill most of the sheet of paper, and write the date and location along one edge of the paper. Have the students cut their pot into 7 or 8 pieces and hold onto the information on the date and location.

   Divide the class into groups of 4 or 5. Have all the students in a group put their cut-up pieces together in a bag and shake them up, then spread them out on a desk or table. Have the group try to divide the pieces up as to which ones are from which pot. Each of the groups of pieces is a pottery type. An archeologist who was familiar with the date and location it was made would have clues on when people lived in that site, what kind of pottery they made there and who they traded with to get kinds from other places.

Have the students tell the others in their group when and where their type was made, and have the group figure out what they could deduce about their site from the pottery types they found.

4. If possible, have an archeologist come to the class and talk about archeological methods and preservation, and the types of pottery found in local sites and what archeologists can learn from them.

5. If possible, visit a local archeological site with an archeologist who can show the students various kinds of potsherds and explain what information they hold. A site being excavated would be ideal, but an unexcavated one would work and give the archeologist the opportunity to talk about why not all sites have been excavated.

EXTENSION IDEAS

1. Have the students look through their kitchen cabinets at home and see how many kinds of pots, pans, and dishes we use today and how many places they come from. What would archeologists several hundred years from now be able to tell by studying objects found on the site of our homes? Does anyone collect antiques? Would they confuse a future archeologist about when our homes were inhabited? Can you think of other ways that those archeologists could find out the dates we lived there? (Hint: do we have any dates written down that might survive?)

2. It is fun, and can make a useful link between people now and in the past, to look at each sherd and think about the person who made it so long ago. Perhaps the mother of the family gathered the clay, formed the pot, and painted the decorations. Perhaps the father gathered the firewood and helped with the firing. Perhaps the son used the pot every day to eat his meals, or the daughter used it to carry water to their house from the stream. Then one day someone dropped it, and the pieces were gathered up and put in the trash area outside. All those years ago it was touched by all those people, and now it is in your hands. You can really find the connection in some pieces of corrugated pottery, when you find the potter' s fingerprints in the pinch marks.

Do you think it ever occurred to those people that someone centuries later would treasure their broken pot? If you had a chance to ask them about the pot, what would you ask, and what might they say to you? If you had a chance to ask them about their lives, what would you ask, and what might they answer? What do you think they would wonder about your life?

RESOURCES

Books:

Baylor, Byrd, *When Clay Sings*, Simon and Schuster, NY 1987. (ISBN 0-689-71106-9)***

Hayes, Allan, and Blom, John, *Southwestern Pottery—Anasazi to Zuni*. Northland Publishing, Flagstaff, AZ 1996 (ISBN 0-87358-656-5)

O'Donnell, Joan K, ed, *Here, Now, and Always—Voices of the First Peoples of the Southwest*, Museum of New Mexico Press, Santa Fe, NM 2001 (ISBN 0-89013-387-5)***

Panchyk, Richard, *Archeology for Kids, Uncovering the Mysteries of Our Past*, Chicago Review Press, 2001 (ISBN 1-55652-395-5)***

Peckham, Stewart, *From This Earth—The Ancient Art of Pueblo Pottery*. Museum of New Mexico Press, Santa Fe, NM, 1990 (ISBN 0-89013-204-6)

Swentzel, Rina, *Children Of Clay, A Family Of Pueblo Potters*. Lerner Publications, Minneapolis, MN, 1992 (ISBN 0-3225-9627-X)***

Trimble, Stephen, *Talking With the Clay, The Art of Pueblo Pottery*. School of American Research Press, Santa Fe, NM 1987 (ISBN 0-933452-18-7)***

U.S. Department of the Interior, *Intrigue of the Past, Discovering Archeology in New Mexico*, manual of Project Archeology; for information on workshops, contact the Heritage Education Team, Bureau of Land Management, Anasazi Heritage Center, PO Box 758, Dolores, Colorado, 81323, (303) 882-4811

Video or DVD:

Maria, Indian Potter of San Ildefonso Pueblo, (video or DVD) 30 min. All the stages of making traditional San Ildefonso matte-on-black pottery ***

*** Materials available for free loan from Bandelier, (505) 672-3861 x 517

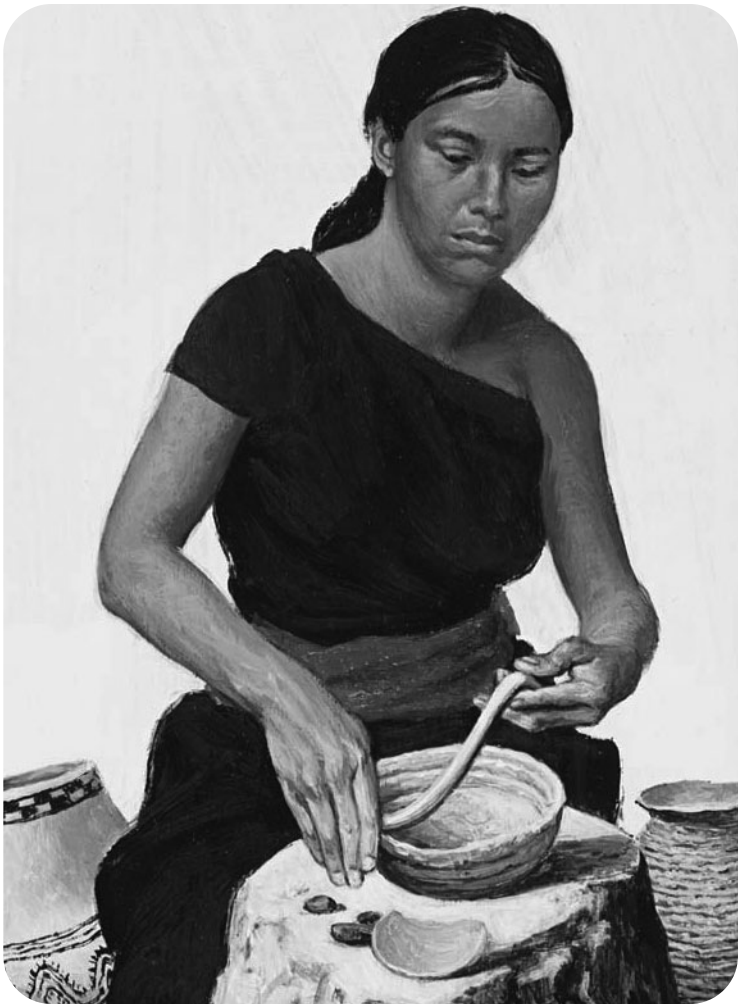
Web Resources:

Bandelier website: www.nps.gov/band

Bandelier museum collection items: www.cr.nps.gov/museum/exhibits/band (or go to the Bandelier website and click on the collections icon)

Lesson Plan: Making Pueblo Pottery

Students use pottery making to learn about traditional Pueblo pottery methods and also the importance of maintaining cultural practices through the oral tradition.



Location: classroom
Suggested group size: whole class, small groups, individuals
Subject(s): history, social studies, art,
Concepts covered: coil-building pottery, oral tradition, maintaining cultural identity
Written by: Cecelia Duran, Tesuque Day School
Corky Hewitt, El Dorado Elementary
Expanded and modified by Chris Judson,
Bandelier National Monument
Last updated: 12/2005

Student outcomes: At the end of this activity, students will know the steps in making and firing hand-coiled Pueblo pottery, will understand that Pueblo people may feel that for some kinds of skills and knowledge the best way of passing it along is by oral tradition, and will know why it is important to them to keep a strong connection to their traditions.

EDUCATIONAL STANDARDS

New Mexico State Standards

Art

Content Standard 1: Learn and develop the essential skills and technical demands unique to dance, music, theatre/drama, and visual arts.

Visual Arts

Grade 5-8

B. Explore and understand the use of art materials and techniques by culturally diverse artists locally and globally.

1. Research and discuss the relationship between art and artifact and their historical, geographical, cultural and political contexts.

Content Standard 4: Demonstrate an understanding of the dynamics of the creative process.

Visual Arts

Grade K-4

A. Understand that works of art come from diverse personal and cultural experiences and inspirations.

Content Standard 1. Listen and develop the essential skills and technical demands unique to dance, music, theatre/drama and visual arts.

B.1. Research and discuss the relationship between art and artifact and their historical, geographic, cultural and political contexts.

Social Studies

Strand: History

K-4 Benchmark I-A: Describe how contemporary and historical people and events have influenced New Mexico communities and regions

Grade 4

l. Identify important issues, events, and individuals from New Mexico pre-history to the present.

K-4 Benchmark III-B: Identify and describe the symbols, icons, songs, traditions, and leaders of local, state, tribal, and national levels that exemplify ideals and provide continuity and a sense of community across time.

Grade 4
1. Describe various cultures and the communities they represent, and explain how they have evolved over time.

NATIONAL STANDARDS

History

Topic 1: Living and Working Together in Families and Communities, now and long ago

Standard 1A, Grades K-4: The student understands family life now and in the recent past; family life in various places long ago

Standard 1B Grades K-4: The student understands the different ways people of diverse racial, religious, and ethnic groups, and of various national origins, have transmitted their beliefs and values

Standard 2 Grades K-4: The history of students' own local community and how communities in North America varied long ago

2A: The student understands the history of his or her local community

Grade K-4: Describe local community life long ago, including jobs, schooling, transportation, communication, religious observances, and recreation (obtain historical data)

Topic 3: The History of the United States: Democratic Principles and Values and the People from Many Cultures Who Contributed to its Cultural, Economic, and Political Heritage

Standard 6A: The student understands folklore and other cultural contributions from various regions of the United States and how they help to form a national heritage

Grade 3-4: Examine art, crafts, music, and language of people from a variety of regions long ago and describe their influence on the nation (Draw upon visual and other historical data)

Social Studies
I. Culture

Early Grades
a. explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns

c. describe ways in which language, stories, folktales, music, and artistic creations serve as expressions of culture and influence behavior of people living in a particular culture

Middle Grades
a. compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns

c. explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture

Art
Visual Art
Content Standard 4: Understanding the visual arts in relation to history and cultures

Achievement Standards:
Students know and compare the characteristics of artworks in various eras and cultures

Students describe and place a variety of art objects in historical and cultural contexts

Students analyze, describe, and demonstrate how factors of time and place (such as climate, resources, ideas, and technology) influence visual characteristics that give meaning and value to a work of art.

MATERIALS

Evaluation Activity
Legoria Tafoya pottery-making image series (www.nps.gov/band, click on "collections" icon, look under contemporary pottery, #692-705))

Activity 1
Book: Children of Clay

Activity 2
Writing or art materials

Activity 3
Images from Bandelier museum collection, available for loan or can be printed from the internet, www.nps.gov/band, click on "collections" icon:

Series of pottery stages, by Legoria Tafoya, #692-705

Pottery by Maria Martinez, especially #1667

Paintings by Pablita Velarde, especially #3098 (Woman Making Pottery) and 672 (Pueblo Views)

Optional: Portrait of Maria Martinez; check www.mariapottery.com

Maria Martinez video/DVD (see Resources) available for loan from Bandelier, (505) 672-3861 x 517

Activity 4
Guest speaker

Activity 5

Enough for each student: clay or equivalent, smooth stone for polishing, bowl of water, slender sticks or brushes for decorating pot, burlap to keep the clay moist, colored slip or acrylic paints, popsicle sticks or rounded pieces of dried gourd or cardboard for scraping, newspaper or newsprint, small bowls. Camera, drawing materials, writing materials.

Optional: borrow authentic Pueblo pottery from Bandelier

Activity 6
Drawing materials

Extension 1
Images as in Activity 3

Extension 2
Cookbooks, ingredients for chosen recipes, pans

Extensions 3 and 4
Guest speaker

VOCABULARY

Archeological excavation: a location where scientists use careful, painstaking methods to learn about past people by digging into places they lived and used

Archeologist: a scientist who studies people, usually from the past, by looking at things and places that they used

Artifact: any object that has been made or used by humans

Clay pit: place where soil suitable for making pottery can be found and dug up

Coiling: method of making pottery in which the prepared clay is pulled and rolled out into long strips, which are then placed around and around the growing vessel to build its walls. Each strip is pinched onto the one below it, and the seam is usually smoothed out. No wheel is used.

Culture: a group of people who share traditions, beliefs, and customs. Sometimes the word is used to mean the traditions, beliefs, and customs themselves, and things or activities related to them.

Dig: an archeological excavation

Firing: the process in which pottery pieces are made hard and strong by exposing them to high heat.

Glaze: a mineral paint, used to decorate or coat pieces of pottery, which melts and becomes vitreous when the pot is fired

Gourds: relatives of squash which develop a hard or leathery outside; when they are dried out, the seeds can be removed from the inside and the hard rind used for such things as bowls, dippers, and clay scrapers

Olla: a large pottery vessel with a wide body and narrower neck, often used for carrying or storing water; sometimes they could hold as much as two gallons

Oral tradition: information and knowledge being passed from person to person by word-of-mouth

Polishing stone: a very smooth, rounded stone used for polishing a piece of pottery

Pot sherd: a piece of a broken pot

Pueblo: Spanish word for village, used to mean a community of people with particular customs, including farming, weaving, and making pottery, and their settlement. There are presently 19 pueblos in New Mexico, plus the Hopis in Arizona and Isleta del Sur outside of El Paso, Texas.

Puki: a Tewa term meaning a dish, often made from the bottom of a broken pot, on which a potter puts the clay as she builds a pot. The puki supports the growing pot and allows it to be turned without sticking to the table. Some potters make pukis specially for different sizes and shapes of pots.

Slip: clay thinned with water to the consistency of paint, often used for painting decorations onto unfired pottery

BACKGROUND AND HISTORICAL CONTEXT

Pueblo people and their ancestors have lived in what is now the American southwest for thousands of years. For millennia the early people were hunters and gatherers, obtaining their needs by gaining exhaustive knowledge of what resources were to be found where, and at which times of year. Well over a thousand years ago they began to be involved in farming, eventually learning to raise corn, beans, and squash in this arid land. For all those years, until the Spanish came into the area in the 1500s, the people had passed on their knowledge, beliefs, and experience without the use of writing, relying on word of mouth from generation to generation.

In many ways, the oral tradition is such an integral part of the Pueblo culture that it is still the preferred way of transmitting some skills, such as pottery making. Children are expected to learn by watching, with varying amounts of instruction provided by the skilled potter. Other crafts, ceremonial dances and songs, stories, and even such workaday skills as cooking, are usually passed along the same way. Even though books and reading have been a common part of Pueblo life for centuries, the people choose to keep the old way to pass along many of the old customs. In a culture that values community and family among the highest priorities, the process of oral teaching is important not only for what is passed along, but also for the personal contact and relationships that are built and strengthened.

To many people, pottery is the craft most strongly associated with the Pueblo culture. In archeological sites, pottery pieces are much less vulnerable to the processes that, over centuries, destroy other artifacts. Often all we see of the work of early people is sherds of broken pottery or, sometimes, an intact bowl, jar, or olla. Their shapes and decorations speak across the years of the talents of people who inhabited this land so long ago. And, although decorative motifs change over generations, the way the pottery is made is still the same, from the hand-

shaping without use of a wheel, the smoothing and polishing, and the painting of designs applied with a yucca-leaf brush, through the outdoor firing.

Maria Martinez and Pablita Velarde, well-known Pueblo artists, are both associated with Bandelier history. Maria met archeologist Edgar Lee Hewett in the early 1900s when her husband was working as a laborer in Hewett's excavations in Frijoles Canyon. It was with his encouragement that she began selling her pottery outside her village. Over the years she came to be, by far, the most famous of the Pueblo potters, and her work is in museums and collections all over the world. She passed away in 1980. Pablita's first paying job as an artist was at Bandelier, working on a project to make illustrations for the park museum as part of the Works Progress Administration in the late 1930s. She went on to become a very accomplished and praised painter. Both of them were instrumental in opening doors for other Pueblo people to be known in the world outside of their villages, and had important roles in improving the economic conditions in their home pueblos due to visitors' interest in purchasing pottery and paintings.

(see also the articles on pottery, Maria Martinez, and Pablita Velarde in the Bandelier newspaper in the curriculum guide, and the lesson plan "Learning from Oral Traditions."

PRE- AND POST-EVALUATION

Pre-Evaluation:

1. Ask the students if they have ever made pottery, and what steps you have to go through to make it. Write the steps on a flipchart sheet and save for later.

2. Ask the students if they like learning from books or learning from people, and if they can think of some subjects or skills that would work better in each of those modes. Write the list on a flipchart sheet and save for later.

Post-Evaluation:

1. Put the Legoria Tafoya pottery series photos on the board out of order, and have the class, either individually or as a group, put them in the right sequence, identifying each step. Get out the flipchart sheet from the pre-evaluation and ask them to look at the steps listed and add any that they had not previously included, or see if there are steps listed that are from other styles of pottery-making but not needed here.

2. Ask the students if they think it would work better to learn pottery-making by watching and talking with a teacher, or by learning it from a book. Ask them to explain, verbally or in writing, which way they would prefer and why. Get out the flipchart sheet from the pre-evaluation and ask them if they still agree

with it and if they would add or subtract any listed skills or subjects. If the idea of oral traditions is of interest, look at the lesson plan, "Learning from Oral Traditions."

PROCEDURES: ACTIVITIES TO CHOOSE FROM

1A. Use the book, "Children of Clay". In it the author, from Santa Clara Pueblo, tells how her family passes along the skills and traditions of making pottery. Some of the customs are very old, while new ones have been added over the years. Ask the students, individually or in a whole-class setting, to decide which parts of the pottery traditions are from long-ago and which ones are from nowadays, and ask them to tell how they know.

1B. Have the students, as a class, in small groups, or as individuals, re-tell orally, in writing, or as a play, the story in "Children of Clay" but set in Ancestral Pueblo times.

2. Have the students, individually or as a class, write a story or do a mural or series of drawings showing the steps in a skill that they know. Ask them to tell why they hope that this skill will be passed along to other generations, and what they think would be the best way to teach it.

3A. Initiate a discussion on pottery making by asking if any of the students have worked with clay in a ceramics class or elsewhere. Show the class some of the prints of old and new pottery from the Bandelier collection, and ask them how old they think the pieces are, and if they have ideas about how they were made. Talk about differences and similarities they notice between old and new pieces.

3B. Show the Maria video; introduce it by showing or putting on the board the picture of her and giving a short biography of Maria and her family (see the article on Maria in the newspaper "Pueblo People Past and Present" in the curriculum guide) and their connection with present-day pottery-making. Explain that the methods shown in the film are ones that have been used in this area for over a thousand years, (except for using cow and horse manure for fuel and firing for the black finish, since cows and horses weren't in the area until the Spanish came). In the film she mentions that she learned from her Aunt Nicolasa; she doesn't mention that she taught many others, passing the skill along in the traditional manner. Tell the class that, although Maria has passed away, they will also be learning from her, by watching her techniques in the film, and that they will be using this knowledge to make their own pottery. If making pottery is not an option, see Activities 3 and 4 below.

3C. Discuss the traditional process and how it might need to be adapted in order to make pots in the classroom. For example, will you be able to go out and dig clay, or will you need to use commercial clay? How will you need to do the firing? At the end of the video, Popovi Da mentions that they sometimes have pots that crack in the firing; should your class expect all their pots to come out perfect on their first try?

4. If possible, invite a Pueblo potter to visit the class to talk or demonstrate.

5A. If the class is going to make pottery, consider borrowing an authentic piece of Pueblo pottery from Bandelier (505-672-3861 x 517). Decide on what kind of clay to provide. Is there a source of dig-it-yourself clay and temper in the vicinity? If so, would it be possible to take the class there to gather the clay themselves? Otherwise, consider buying commercially-prepared clay, or use alternatives such as modeling clay (which never really hardens), Sculpey, or play-doh. Will you be able to do a real firing, or use a kiln, or would it be better to use a material that you will just air-dry, or fire in an oven? Whichever material you choose, do a trial run before trying it with the class.

Two recipes for self-hardening (play-doh-type) clay:
1 cup flour, 1 cup water, 1/2 cup salt, 2 tsp cream of tartar, 1tb salad oil. Add water gradually to dry ingredients, mix well. Cook over low heat 3 minutes; store in airtight container in the fridge until ready to use

4 cups flour, 1 ? cups salt, 1 ? cups water. Add water gradually to dry ingredients, mix well. Store in sealed plastic bag in the fridge until ready to use; allow to return to air temperature before using. When object is complete, allow it to dry at air temperature at least two days (not in direct sunlight)

Hints: Newspaper or butcher paper may be useful to protect the tables. For some kinds of clay, you will need to have a small non-tippy bowl of water for each 2 or 3 students to share. This makes it possible for them to moisten their fingers as they work with the clay, to keep the clay from drying too fast, and to help the coils stick together as the pot is built.

Consider smocks or aprons. Saucers may be useful in place of pukis to keep the growing pots from sticking to the table surface, and for keeping the pot from being damaged if it has to be moved while still wet. Popsicle sticks or rounded pieces of cardboard may work in place of gourd pieces for scraping the pots smooth.

Don't dry pots in direct sunlight, as they will dry unevenly and probably crack. Instead, dry slowly in a cool, shady place; if necessary, wrap in burlap to slow the

drying. Plan to have the activity on two different days, several days apart, so the pots can dry thoroughly before they are painted. If you plan to fire the pots and decorate them with acrylic paints, be sure to paint the pots after they are fired.

If you plan to fire the pots, be sure the students know that each coil must be very carefully attached to the previous ones, with no air bubbles, or the pot is likely to explode in the firing. In fact, be sure students know that even very skilled Pueblo potters sometimes have pots crack or explode in firing, but they work carefully to try to prevent it.

If you want the pots to be waterproof, coat the inside with a commercial product such as Verathane after they have cooled from firing. This won't work with pots that have spaces left between the coils.

5B. Consider taking snapshots of the students working, to show each step in the process. Have the students divide into small groups to have each group write an explanation of what is happening in each photo. When the pots are finished, put them on display in the classroom or a display space somewhere in the school, along with the photos and captions. Alternatively, have them draw pictures of themselves doing the various steps.

6. As a substitute to making real pottery, or in addition to Activity 5: have the students draw an outline of a piece of pottery, and then encourage them to experiment with creating their own designs for the decoration.

EXTENSION IDEAS

1. Today pottery is often made to be purchased by people who will use it only as a decoration, but for centuries it was made to be used for cooking, serving, and storage. Have the students compare some Ancestral Pueblo pots with some modern ones (found in the Bandelier online collection, (www.cr.nps.gov/museum), or elsewhere), considering whether their makers created them for the same or different purposes and how you can tell. For example, would you want to put a fancy decorated bowl over a cooking fire? Would you want to eat out of a pot with a tall neck? What shape would you want for :
   - carrying water
   - storing corn meal
   - storing seed corn
   - cooking stew
   - dipping water out of a large olla

2A. Talk about what foods the Ancestral Pueblo people cooked, and what types of pottery they needed to do it. If you are not certain what they had prior to the arrival of the Spanish, look at the lesson plan "Living in the Community." It includes information on what items and materials were introduced into Pueblo culture by European contact.

2B. Think of a meal you might eat today, and decide what kinds of pottery you would need if metal pots and pans were not available.

2C. If someone associated with the class has experience in Pueblo cooking, consider actually making a traditional Pueblo meal. A present-day menu might include tortillas, green chile stew, pinto beans, and fry bread. You will probably want to use modern pots and pans. See "Resources" section below for cookbooks.

3. To learn more about pottery making, teaching, or cooking, past or present, invite a guest speaker or skilled demonstrator to visit your classroom. To learn more about present-day Pueblo teaching or learning, do a classroom pen-pal exchange with Pueblo students. Call the pueblo's Governor's Office to initiate contact; information for many New Mexico pueblos is available from the Museum of Indian Arts and Culture's website at www.miaclab.org under "Native Communities" or at www.state.nm.us/oia/triballist.html/.

4. To learn more about Ancestral Pueblo pottery, invite a park ranger or archeologist to give a presentation. In addition to talking about the pottery itself, they can also include information on preserving Ancestral Pueblo artifacts and sites so future generations can appreciate the history of the area. This would include leaving artifacts where they are found, not moving or collecting them, and what can be learned from them.

5. There are a number of museums in the Southwest that include collections of Ancestral and/or present-day Pueblo pottery (see the following list). If you are considering a visit, please also see the lesson plan "Field Trip Activities: Exploring Pueblo Culture Yesterday and Today" for information and ideas on planning a terrific field trip.

MUSEUMS OF INTEREST INCLUDE:

Bandelier National Monument
If planning to visit Bandelier National Monument, contact the Visitor Center (505-672-3861 x 517) to find out if any of the items you are interested in showing to the students are currently on display. Contact 505-672-3861 x 534 to make group visit reservations.

Also, Bandelier's online collection at www.cr.nps.gov/museum (or click on the "collections" icon on the Bandelier website, www.nps.gov/band) contains many more examples of Pueblo and Ancestral Pueblo pottery besides those highlighted in this lesson.

Pecos National Monument
PO Box 418, Pecos, NM 87552-0418, 505-757-6414, www.nps.gov/peco

Aztec Ruins National Monument
84 County Rd 2900, Aztec, NM 87410, 505-334-6174, www.nps.gov/azru

Chaco Culture National Historic Park
PO Box 220, Nageezi, NM 87037, 505-786-7014, www.nps.gov/chcu

Museum of Indian Arts and Culture, Santa Fe, New Mexico
710 Camino Lejo, Santa Fe, NM 87501, 505-827-6463, www.miaclab.org

Millicent Rogers Museum, Taos, New Mexico
1504 Millicent Rogers Rd, Taos, NM 87571, 505-758-2462
www.millicentrogers.com

San Ildefonso Pueblo Museum, San Ildefonso Pueblo, New Mexico
Rt 5 Box 315A, Santa Fe, NM 87501, 505-455-2273

Indian Pueblo Cultural Center, Albuquerque, New Mexico
2401 12th St, Albuquerque, NM 87104, 1-800-766-4405
www.indianpueblo.org

Florence Hawley Ellis Anthropology Museum,
Ghost Ranch Conference Center
Abiquiu, NM, HC 77 Box 11, Abiquiu, NM 87510, 505-685-4333
www.ghostranch.org

Edge of the Cedars State Park
660 West 400 North, Blanding, Utah 84511, 435-678-2238
www.utah.com/stateparks/edge-of-cedars

Southwest Museum, Los Angeles, California
234 Museum Dr, Los Angeles, CA 90065, 323-221-2164
www.southwestmuseum.org

Museum of Northern Arizona, Flagstaff, Arizona
3101 N Ft. Valley Rd, Flagstaff, AZ 86001, 928-774-5213, www.musnaz.org

RESOURCES

Books:

Albuquerque Tribune, *Green Chile Bible*, 2003 (ISBN 0-940666-35-9) ***

Barrey, Patricia, *Bandelier National Monument*, Western National Parks Association, Tucson, AZ, 1990 (ISBN 0-911408-88-6) ***

Baylor, Byrd, *When Clay Sings*, Simon and Schuster, NY, 1987 (ISBN 684-12807-1)***

Gustafson, Sarah, *Exploring Bandelier National Monument* (For Kids), 1997 (ISBN 1-87785-658-4)***

Hughes, Phyllis, *Pueblo Indian Cookbook*, Museum of New Mexico Press, Santa Fe, NM, 1977 (ISBN 0-89013-094-9)***

Keegan, Marcia, *Pueblo Girls Growing Up in Two Worlds*, Clear Light Publishers, Santa Fe, NM, 1999 (ISBN 1-57416-020-6)***

Morris, Juddi, *Tending the Fire, The Story of Maria Martinez*, A Biography for Young Readers, Northland Press, Flagstaff, AZ 1997 (ISBN 0-87358-654-9)

Noble, David Grant, *101 Questions About Ancient Indians of the Southwest*, Western National Parks Association, Tucson, AZ, 1998 (ISBN 1877856-87-8) ***

O'Donnell, Joan K., ed. *Here, Now, and Always—Voices of the First Peoples of the Southwest*, Museum of New Mexico Press, Santa Fe, NM, 2001 (ISBN 0-89013-387-5)***

Ruch, Marcella J., *Pablita Velarde, Painting Her People*, New Mexico Magazine, Santa Fe, NM, 2001 (ISBN 0-937206-65-2) ***

Spivey, Richard L, *Maria*, Northland Press, Flagstaff, AZ 2003 (ISBN 0-89013-420-0)

Swentzell, Rina, *Children of Clay, A Family of Pueblo Potters*, Lerner Publications, Minneapolis, MN, 1992 (ISBN O-8225-9627-X)***

Trimble, Stephen, *Talking With the Clay, The Art of Pueblo Pottery*, School of American Research Press, Santa Fe, NM, 1993 (ISBN 0-933452-18-7)***

Video/DVD:

Pablita Velarde, (DVD or video) 27 min. Emphasis on her art and her time at Bandelier ***

Pablita Velarde, Golden Dawn, (video) 24 min. Biography from KNME series "Colores!" ***

Maria, Indian Potter of San Ildefonso (video or DVD) 30 min. All the stages of making traditional San Ildefonso matte-on-black pottery

Website Resources

Bandelier National Monument: www.nps.gov/band.

There are also general scenery photos of Bandelier on the web at: www.photo.itc.nps.gov/storage/images/index.html

Bandelier museum collections website: http://www.cr.nps.gov/museum or go to the Bandelier website and click on the collections icon

Library of Congress: http://memory.loc.gov/ammem

Lesson Plan:
How Did They Live Without Supermarkets?

Students explore the ways that the Ancestral Pueblo people made use of resources in their environment to provide them with food, tools, and other necessities.

Location: classroom; one activity may be done on a fieldtrip
Suggested group size: individuals, small groups, whole class
Subjects: plant uses, mineral uses, social studies, history, archeology, anthropology
Concepts covered: uses of natural resources, trade, people's adaptation to their environment
Written by: Chris Judson, Bandelier National Monument
Last updated: 12/2005

Student outcomes: At the end of this activity, students will be familiar with many of the raw materials available to the Ancestral Pueblo people, how they were acquired, and how they were used, as well as their domestic plants and animals. Note: although medicines would come into this subject, they have not been included since many medicinal materials can be dangerous if not used under the supervision of a well-trained, long-experienced practitioner.

EDUCATIONAL STANDARDS

New Mexico State Standards

K Content Standard 6: Show increased awareness of diverse peoples and cultures through visual and performing arts.

Visual Arts

Grade K-4

A. Identify specific works of art as belonging to particular cultures, times, and places.

1. Determine the function of various works of art and artifacts within a specific culture.

2. Create art that reflects New Mexico cultural and historical influences.

3. Describe art from one's own culture and the culture of others.

4. Recognize art from a variety of New Mexico cultures.

Grade 5-8

A. Compare and describe artwork of various eras and cultures; and

B. Recognize historical and cultural themes, trends, and styles in various works of art.

1. Sort and classify a variety of art objects within an identified historical and cultural context.

2. Create art that reflects a particular period within a specific culture.

B. Recognize historical and cultural themes, trends, and styles in various | works of art.

1. Sort and classify a variety of art objects within an identified historical and cultural context.

2. Create art that reflects a particular period within a specific culture.

Language Arts

K-4 Benchmark I-D: Acquire reading strategies

Grade 4

5. Increase vocabulary through reading, listening, and interacting

K-4 Benchmark III-B: Identify and use the types of literature according to their purpose and function

Grade 4

4. Compose fiction, non-fiction, poetry, and drama using self-selected and/or assigned topics and forms.

K-4 Benchmark III-C: Be familiar with aspects of human behavior and man-made and natural environments in order to recognize their impact on the past and present

Grade 4

1. Explain how geographic factors have influenced people, including settlement patterns and population distribution in New Mexico, past and present.

2. Describe how environments, both natural and man-made, have influenced people and events over time, and describe how places change.

K-4 Benchmark I-D: Acquire reading strategies

Grade 4

5. Increase vocabulary through reading, listening, and interacting

K-4 Benchmark I-C: Students will identify and describe similar historical characteristics of the United States and its neighboring countries.

Grade 4

1. Explain how historical events, people, and culture influence the present-day Canada, Mexico, and the United States (e.g., food, art, shelter, language).

K-4 Benchmark I-D: Understand time passage and chronology.

Grade 4

1. Describe and explain how historians and archeologists provide information about people in different time periods.

NATIONAL STANDARDS

History

Topic 1: Living and Working Together in Families and Communities, now and long ago

Standard 1A, Grades K-4: The student understands family life now and in the recent past; family life in various places long ago

Standard 2 Grades K-4: The history of students' own local community and how communities in North America varied long ago

2A: The student understands the history of his or her local community

Grade K-4: Describe local community life long ago, including jobs, schooling, transportation, communication, religious observances, and recreation (obtain historical data)

Standard 2B Grades K-4: The student understands how communities in North America varied long ago

Grade K-4: Compare and contrast the different ways in which early Hawaiian and Native American peoples such as the Iroquois, the Sioux, the Hopi, the Nez Perce, the Inuit, and the Cherokee adapted to their various environments and created their patterns of community life long ago. (Compare and contrast differing sets of ideas)

Standard 6A: The student understands folklore and other cultural contributions from various regions of the United States and how they help to form a national heritage

Grade K-4: Compare and contrast various aspects of family life, structures, and roles in different cultures and in many eras with students' own family lives (Compare and contrast)

Geography

11. the patterns and networks of economic interdependence on earth's surface

Social Studies

I. Culture

Middle Grades

a. compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns

c. explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture

Middle Grades

a. compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns

c. explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture

7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.

MATERIALS

Raw cotton, gourds, rabbit skins, cobs of dried corn, seashells, dry clay, turkey feathers, tuff, yucca, bones, obsidian - or Raw Materials kit, available for loan from Bandelier, which contains all of above

Posters in Raw Materials kit

Images from Bandelier Collections website (print them yourself from the website, or a set is available for loan from Bandelier); many of the images in the "Archeology" section might be useful

"Making String" kit from Bandelier

Newspaper "Pueblo People Past and Present" from this curriculum guide

Books (see sitations at the end of the lesson):
Wild Plants of the Pueblo Province

Flowering Plants of the Southwestern Woodlands

Southwestern Arts and Crafts

Children of the Clay
(see Resources section at end of lesson plan for complete citations)

Videos
Maria, Indian Potter of San Ildefonso

Flintknapping with Bruce Bradley, Ph.D.

BACKGROUND AND HISTORICAL CONTEXT

The Ancestral Pueblo people who lived in and around Bandelier had a very thorough knowledge of the plants, animals, and rocks available in their arid environment and the ways they could be used. People have probably been using the area for over 12,000 years, so they had many, many generations to explore and experiment, and also develop trade routes. By the time the Ancestral Pueblo people moved into Frijoles Canyon, they knew how to find, make, grow, or get by trade everything they needed, even in their sparse surroundings.

Many of the materials that were important to them were wild, things the people would have used extensively when they were hunters and gatherers, before they settled down as farmers. Examples would include:

Yucca: roots used for shampoo or soap; leaves woven into sandal soles or baskets, or chewed on one end to make paintbrushes; the strong fibers in the leaves used for cordage; turkey feathers twisted into the cordage and then woven into warm blankets; flowers and fruit cooked as food

Piñon pine: wood excellent as firewood or making tools; nuts very nutritious and tasty; sap used for glue, chewing gum, or water-proofing baskets.

Ponderosa pine: wood good for firewood, tall straight trunks used for roof beams and ladder uprights, sap for chewing gum

Juniper: strong wood used for tools; shreddy bark softened for use as diapers or woven into mats, berries useful as survival food

Clay: made into pottery. Slip, clay with added water, was used for the background or decorative designs on pottery, or for painting ceremonial dancers.

Obsidian (volcanic glass): chipped to make very sharp tools such as knives, projectile points, and drills

Basalt (hard dense volcanic rock): shaped into durable tools like manos and metates, hammers, or mauls

Tuff: soft, crumbly stone; cavates were carved into the tuff cliffs, while loose pieces of tuff were shaped into rough bricks for house building

Wildlife: hunters used all the parts of the game they killed, including the skin for leather or fur, the bones for tools, the sinew for thread, and of course the meat, which was dried in the form of jerky for storage. The most common prey animals were rabbits and deer

Other materials came from their gardens. They included:

Corn: the food regarded as their most important staple. Dried for storage; ground into meal for cooking

Beans: the second staple crop; very nutritious when served with corn, since the two together make up a complete protein

Squash: the third staple crop (third of the "Three Sisters"); it provided vegetable nutrients

Turkey feathers: harvested from their domestic turkeys and used for dance costumes, fletching arrows, and twisted into yucca cord to be woven into blankets

Gourds: dried and with the seeds removed, they were made into rattles as well as utensils such as ladles and bowls

And some came by trade. They included:

Turquoise: the closest source was near Santa Fe; turquoise was made into beads and pendants, and sometimes powdered for paint

Seashells: brought by trade from the Gulf of Mexico, the Gulf of California, and the coast of California; shells were made into beads, bracelets, and pendants

Parrots or parrot feathers: brought by trade from Mexico; the bright-colored feathers were used for dance costumes

Cotton: grown in areas at elevations lower than Bandelier; it was the most commonly-used fiber, being spun into thread and then woven into cloth

(also, refer to the articles "Making A Living", "Volcanoes, Axes, and Arrowheads". "Building Homes in Frijoles Canyon", "Using Native Plants", and "Cooking With Clay" in the newspaper, "Pueblo People Past and Present" in this curriculum guide, as well as the lessons "Making Stones Into Tools", and "Making Pueblo Pottery")

VOCABULARY

Basalt: a hard, dense, durable volcanic rock often used for tools such as metates, hammers, and axes.

Gourds: relatives of squash which develop a hard or leathery outside; when they are dried out, the seeds can be removed from the inside and the hard rind used for such things as bowls, dippers, rattles, and clay scrapers

Obsidian: glassy black volcanic stone used for making extremely sharp tools

Raw materials: materials as they come out of nature, before they have been processed to be used, such as clay just out of the ground, or yucca leaves before the green material is removed

Tuff: crumbly rock composed of volcanic ash. At Bandelier, the canyon walls and mesas are made of tuff that came out of two huge eruptions of the Jemez Volcano over a million years ago. The Ancestral Pueblo people shaped the soft stone into bricks to build their homes and carved small caves into the cliffs to use as rooms

Turquoise: a soft stone, found in varying shades of blue to green, popular for making jewelry throughout the Southwest past and present. There is a source south of Santa Fe near Cerrillos, which has been mined for hundreds or thousands of years.

Yucca: plant with long, stiff, sharp-pointed leaves, found in dry areas, related to lilies although often mistakenly identified as a cactus

PRE- AND POST-EVALUATION

Pre-evaluation:

Ask the students to each make a list of the things they will use today that they must have to survive. As a class, combine the individual lists into one, putting things into categories according to why they are essential (food, shelter, etc) down one side of a flipchart. You could also make a list of things the students enjoy but that are not essential to survival. Down the other side, list what the Ancestral Pueblo people might have used for the same purposes, including the "enjoy" list if you made one. If medicines are mentioned, tell the students that they were just as essential then as now, and the people knew many medicines that could be made from plants and other materials, but they won't be included in this lesson. Save the lists for later use.

Post-evaluation:

1A. As individuals, small groups, or the whole class, go back over the list to find out what the students would subtract or change, and what they can now add.

1B. Have each student write a story or draw a picture telling how they would have gotten at least four things necessary for survival if they had lived in Ancestral Pueblo times and, if they wish, one from the "enjoy" category. Ask them to be sure to include at least one kind of food and something related to shelter. Use these stories or pictures to go back over the list. If appropriate, post them in the classroom or in a public place in the school.

2. If the class has the chance to go on a field trip to Bandelier or another Ancestral Pueblo site, or another outdoor location, add a question to the worksheet for the day asking the students to make a list of all the materials they see that they know the Ancestral Pueblo people used, and what the uses were.

3. Make a set of game/flash cards of poster board or something similar, about 12 inches long and 5 inches wide. On one side write the name of an item made by the Ancestral Pueblo people (or use a drawing of it.) On the other side write the name of the material it was made from (or use a drawing of it). The game could be played many different ways. One possibility would be to choose a student to come to the front of the room. Hold up the card so one side is showing and have the student give the answer that is on the other side. If the answer is correct, the student gets another turn. If it isn't, someone else is chosen to try; if the answer is right, they get another turn, etc. It could also be done with small groups or partners.

PROCEDURES: ACTIVITIES TO CHOOSE FROM

1. Raw Materials: Put the items and posters from the Raw Materials kit out around the classroom. Ask the students to go to each of the stations and make a list of the raw materials shown and at least two uses for each in Ancestral Pueblo times.

2. Wild Plants: Ask the students as individuals to look up, either in the books in the materials kit or in another source, at least two of the wild plants mentioned in the article "Using Native Plants" in the newspaper. For each one tell how to recognize it, whether it grows in wet places or dry places, and at least two uses for it. Consider asking them to also make a drawing of the plant.

3. Ask the students to look through the newspaper, "Pueblo People Past and Present" (in this curriculum guide) to see if they can find additional information on the Ancestral Pueblo people's uses of materials and ways of making things they needed. Ask them to write a description of the use of at least two materials, or the making of at least two things. The articles "Volcanoes, Axes, and Arrowheads", "Building Homes", "Making A Living", "Using Native Plants", and "Cooking With Clay" might be particularly useful.

4. Have the students look in the book "Southwestern Arts and Crafts", or a similar one, to find items that were made in Ancestral Pueblo times that are still being done today. Have them write a description of how an item is made and what materials are needed.

5. Pottery, Cloth, Tools, and Homes: if the class is particularly interested in the use of clay to make pottery, consider showing the video "Maria, Indian Pottery Maker of San Ildefonso" and looking into the lesson plans "Making Pueblo

Pottery" (which includes activities on making pottery) and "What Can Pot Sherds Tell Us About the Past" (which focuses on how old pottery pieces are valuable to archeologists).

If they are interested in the use of cotton for cloth, look at "What Did They Wear?". If they are interested in the making of stone points, refer to the video "Flintknapping with Bruce Bradley, Ph.D." and the lesson plan "Making Stones Into Tools". If you would like to explore making replicas of Ancestral Pueblo tools and other artifacts, see the lesson plan "Ancestral Pueblo Tools" by looking under "Teaching With Museum Collections" in the Bandelier Collections website (on the Bandelier website, www.nps.gov/band, click on the "Collections" icon)

If they are interested in the use of tuff for building homes, refer to lesson plans "Making Stones Into Tools" and "Be An Ancestral Pueblo Architect".

6. Farming: Ask the students to look at the article, "Making a Living" in the newspaper, "Pueblo People Past and Present" in this curriculum guide to find out:

- What food crops did the people grow? (corn, beans, and squash)

- Was there a crop that some Ancestral Pueblo people grew that wasn't for food?

What was it, and what was it used for? (cotton; cloth) Bandelier was too high altitude for the people to grow this, but they needed it; how did they get it? (trade)

- How did they store their crops so they would keep through the winter and be available for hard times? (they dried them and put them into storerooms built so mice and bugs couldn't get in)

- Plants won't grow without water. How did they get water to their crops? (plant near a stream or plant in different places so the plants would have a chance to get rain; live in harmony and respect with the living things and spirits, and have ceremonies)

6. Cordage has long been an important item. Borrow the "making string" kit from Bandelier. Take the photo pages out of the kit and put them in order on a bulletin board or table. Put out lengths of string made of cotton or other fibers (not nylon) and let the students follow the instructions and illustrations to take a try at making thicker cord from the already-made string. Ask them if they can think of other materials, both in Ancestral Pueblo times and now, that would make strong cord or rope. (Suggestions: human hair, which was frequently used in Ancestral Pueblo times, makes very strong cord and is readily available since it grows back. Horsehair is often used now. Yucca fiber, drawn from the inside of yucca leaves, was very commonly used.

7. Turkey-feather blankets: rarities now but common (and prized) possessions of Ancestral Pueblo people. When a craftsperson was making yucca fiber cord, they would twist soft turkey feathers into the cord, resulting in a strong, fuzzy string. These strings would then be used to weave a blanket, which would be warm, soft, and light. See the photo of the turkey feather blanket in the "Making String" kit. If you have the softer type of feathers, from a turkey or other fowl, let the students see if they can make a good "fuzzy string" as they are practicing regular cordage. Present-day craftspeople often put the feather in water before twisting it into the cordage; it sticks better during the making, and fluffs up when dry.

EXTENSION IDEAS

1. Have a craftsperson come to your class to demonstrate the use of one of the materials the students have studied. You could consider combining this activity with ones from other lessons that involve a guest speaker, such as Extension 4 in "Learning from Oral Traditions", 2B in "What Can We Learn from Pueblo People Today", or 4 in "Making Pueblo Pottery"

RESOURCES

Books:

Dunmire, William and Tierney, Gail, *Wild Plants of the Pueblo Province*, Museum of New Mexico Press, Santa Fe, NM, 1995 (ISBN 0-89013-282-8)***

Foxx, Teralene, and Hoard, Dorothy, *Flowering Plants of the Southwestern Woodlands*, Otowi Crossing Press, 1995 (ISBN 0-9645703-1-9) ***

Bahti, Tom and Bahti, Mark, *Southwestern Indian Arts and Crafts*, K C Publications, 1997 (ISBN 0-88714-095-5) ***

Swentzell, Rina, *Children of Clay*, Lerner Publications Company, Minneapolis, 1992 (ISBN 0-8225-2654-9) ***

Videos:

Flintknapping with Bruce Bradley, Ph.D. (video) 45 min. Skilled tool maker shows all the steps needed to make a series of stone tools from obsidian. ***

Maria, Indian Potter of San Ildefonso (video or DVD) 30 min. Takes viewers through the stages of making traditional San Ildefonso matte-on-black pottery. ***

*** Available for free loan from Bandelier, (505) 672-3861 x 517

Lesson Plan: What Can We Learn from Old Trees

Through working with tree ring samples, students will learn the kinds of information that archeologists can glean from dendrochronology, and how the information is obtained.

Location: classroom
Suggested group size: individuals, small groups, whole class
Subject(s): history, social studies, botany, archeology, climate
Concepts covered: chronology, tree rings for telling the age of the tree, when it grew, what the climate was like during that period, and how that relates to archeological dating
Written by: Chris Judson, Bandelier National Monument
Last updated: 12/2005

Student outcomes: At the end of this activity, students will be able to tell the age of a tree by its rings, and understand how the ring patterns can be used to determine the age of archeological sites and what the climate was like when the sites were in use.

EDUCATIONAL STANDARDS

NEW MEXICO STATE STANDARDS

Social Studies

Strand: History

K-4 Benchmark I-A: Describe how contemporary and historical people and events have influenced New Mexico communities and regions

Grade 4

l. Identify important issues, events, and individuals from New Mexico pre-history to the present.

K-4 Benchmark I-D - Understand time passage and chronology.

Grade 4

1. Describe and explain how historians and archeologists provide information about people in different time periods.

K-4 Benchmark II-B: Distinguish between natural and human characteristics of place and use this knowledge to define regions, their relationships with other regions, and patterns of change.

Grade 4

1. Identify ways in which different individuals and groups of people view and relate to places and regions.

K-4 Benchmark III-E: Describe how economic, political, cultural, and social processes interact to shape patterns of human populations, and their interdependence, cooperation, and conflict.

Grade 4

1. Describe how cultures change.

4. Identify the causes of human migration.

K-4 Benchmark I-D: Acquire reading strategies

Grade 4

5. Increase vocabulary through reading, listening, and interacting

NATIONAL STANDARDS

History

Standard 2 Grades K-4: The history of students' own local community and how communities in North America varied long ago

2A: The student understands the history of his or her local community

Grade K-4: Examine local architecture and landscape to compare changes in function and appearance over time.

Standard 3 K-4: The people, events, problems, and ideas that created the history of their state

3A: The student understands the history of indigenous peoples who first lived in his or her state or region

7A: The student understands the cultures and historical developments of selected societies in such places as Africa, the Americas, Asia, and Europe

Grade 3-4: Investigate the ways historians learn about the past if there are no written records (Compare records from the past)

Social Studies

II. Time, Continuity, and Change

Middle Grades

b. identify and use key concepts such as chronology, causality, change, conflict, and complexity to explain, analyze, and show connections among patterns of historical change and continuity

d. identify and use processes important to reconstructing and reinterpreting the past, such as using a variety of sources, providing, validating, and weighing evidence for claims, checking credibility of sources, and searching for causality

English Language Arts

7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.

MATERIALS

Paper, writing utensils, location with good light

Tree ring drawings and diagrams (at end of this lesson)

Dendrochronology materials from Bandelier

Optional: magnifying glasses

Slices of tree trunk from newly-cut tree

BACKGROUND

Tree ring dating, or dendrochronology, is one of the most accurate methods for dating archeological sites. Many kinds of trees add one growth ring each year, usually consisting of a light-colored ring from the summer and a dark-colored ring from the winter. Counting these rings can tell how old the tree is, but the rings have more information too. For many trees, the width of the summer ring varies depending on how wet or dry the year was; the more moisture, the wider the ring. Some trees, such cottonwoods, need a lot of water to survive, so they live near streams or other wet places where their roots have a constant water supply. These trees have annual rings which are all about the same width. Other trees, such as ponderosa and piñon pines, live in places where they must depend on rainfall for their water supply. The rings in these trees will show the pattern of the wet and dry years.

In the 1920s, scientists realized that the pattern of wider and narrower rings serves as an identifying "signature" for the period the tree was alive. They realized that they could use these "signatures" to develop the method now called tree ring dating.

Since then, scientists have been using tree ring patterns from older and older trees to build charts for various areas of the country showing the patterns of wet and dry years in those areas over many centuries. Now when archeologists find a piece of wood such as firewood in an ancient firepit or a roof beam in an old building, it is a valuable clue for finding out when people were living there. They look at the pattern in the log and see where it fits on the master chart. This may allow them to know what year the tree was cut down, which may be the year that the building was built or a clue to when the fire was made.

A single tree ring date could be inaccurate, however. It wasn' t unusual for the ancient people to take beams out of old buildings to make the roof of a new one. If the wood was in the fire, a number of outer rings could have burned off, or maybe the tree had been dead for years before it fell and was gathered up for firewood. So, an archeologist will use as many tree ring samples as possible, to

have the best possible information. In addition, there are other dating methods, including pottery types, pollen analysis, Carbon 14, stratigraphy, archeomagnetism, potassium-argon, and more. An archeologist will use as many methods as possible to get the best idea of when people lived in a particular place.

VOCABULARY

Archeomagnetism: a method of archeological dating based on the last date that clay in a firepit was exposed to the heat of the fire

Carbon 14: a method of archeological dating based on the rate at which Carbon 14 breaks down to Carbon 12

Dendrochronology: a method of archeological dating based on patterns of tree rings

Pollen analysis: a method of finding out what environment surrounded an archeological site when it was inhabited, based on what plant pollen is found

Potassium-Argon: a method of archeological dating based on the rate at which potassium converts to argon

Stratigraphy: a method of archeological dating based on finding items at different levels in a site where people lived over a long period; usually the deepest things are the oldest

Tree rings: circular growth patterns that form inside of tree trunks every year that a tree lives; they are wider in wet years, narrower in dry ones

PRE- AND POST-EVALUATION

Pre-Evalution:

Using a Ponderosa pine section from the Bandelier materials or another source, or a drawing or photo of a cross-section of a similar tree, ask the students to make a list of all the ways that section might be useful to a scientist trying to learn about the Ancestral Pueblo people.

Post-Evaluation:

Have the class review the list they made before the lesson, and see if they find they need to add to it or change it.

PROCEDURES: ACTIVITIES TO CHOOSE FROM:

1. If the teacher or a student has access to a tree that is being cut down and can have a slice taken from the trunk, have the class look at the rings for the years since they were born. Can anyone remember the years that show up as being wet or those that were dry? For much of the Southwest, the years between 2000 and 2003 were extremely dry. Looking farther back, for about twenty years prior to that, there was a period that, in general, was wetter than average. See if you can see those events.

2A. In small groups (or as a class if you have an opaque projector) use the drawings of tree rings to match their rings with the master chart to find the date the tree started growing, how long it lived, and when it was cut. See the Teacher Resource sheet at the end of the lesson for diagrams and directions.

2B. Examine the actual Ponderosa pine slice in the Bandelier materials, or a similar tree section. If this tree started growing in 1905, what year was it cut? How many years did it live? Could you see some very wet years and some very dry ones? Did you have difficulty counting the rings? (no answer available here since the slices differ.)

3. In small groups, have the students look at the samples of the other species of trees and see if they can make a drawing showing the pattern of thicker and thinner rings for the last 15 or 20 years of the tree' s life. Put their charts on the board and see if it is possible to tell if all the trees lived during the same years. Were some of the samples easier to work with than others? Do some show the wet and dry years more clearly? If you were an archeologist, which kind(s) of trees would you rather work with? (In New Mexico, Ponderosa pine is often used, partly because its rings give good information, and partly because it was commonly used for making roofs, so it is often available in archeological sites. PiÀon and oak also show wet and dry years. Cottonwood, box elder, and other trees that need to live where there is abundant water give little indication of the yearly fluctuations.)

4A. Dry years and wet years can make a big difference in the lives of farmers like the Ancestral Pueblo people. Ask the students to look at the tree ring diagram and find:

- What pattern would show a time when they could store lots of food for bad years? (one or more very wide rings, showing year(s) when there was plenty of rainfall)

- What pattern would show a time when they would have to depend on the food they had stored? (one or more very narrow rings, showing year(s) when there was little rain)

- What pattern would indicate a time when they might have to consider moving away? Do you see a pattern like that in this sample? (many narrow rings in a row, indicating a lengthy drought, one long enough that their storerooms might become empty. Some Pueblo people today say that the tradition was to have at least 5-7 years of food stored away if possible)

- If you know that this was a roof beam in a house, and you know what year the tree started growing, how would you know what year the house was built? (it was probably built soon after the tree was cut, so by counting from the year the tree began growing to the outside ring, you have a good idea when the house was built)

4B. Have the students choose a period of 8 or 10 years and write a story about what life would have been like for someone who lived through that period. Or, let them draw their own tree ring pattern to set the stage for a story of the life of an Ancestral Pueblo person.

EXTENSION IDEAS

1. Take the tree slice that shows its rings most clearly and xerox the rings at 200% or more (if this is not feasible, use one of the tree ring drawings). Pretend it was cut this year. As a whole class, count back from the outermost ring and mark off various dates that are important to members of the class, such as the years most students were born, what year the school was founded, the year people walked on the moon, etc, depending on how old the tree was. Have the students write labels with captions, and post it in the room or in a public space in the school or elsewhere.

2. Have a forester visit the class and show the use of an increment borer to see the rings in a tree without cutting it down, or an archeologist to tell how tree rings have been used to learn more about an archeological site near your school.

RESOURCES

Books

Lister, Robert and Lister, Florence, *Those Who Came Before—Southwestern Archeology in the National Park System*, Western National Parks Association, Tucson, AZ 1993 (ISBN 1-877856-38-X)***

Panchyk, Richard, *Archeology for Kids, Uncovering the Mysteries of Our Past*, Chicago Review Press, 2001 (ISBN 1-55652-395-5) ***

U.S. Department of the Interior, *Intrigue of the Past, Discovering Archeology in New Mexico*, manual of Project Archeology; for information on workshops, contact the Heritage Education Team, Bureau of Land Management, Anasazi Heritage Center, PO Box 758, Dolores, Colorado, 81323, (303) 882-4811

Dendrochronology kit available for loan from Bandelier; 505-672-3861 x 517
Teacher resource sheet, with tree ring drawings and dating diagram, at the end of this lesson plan

Web Resources:

Bandelier website: www.nps.gov/band

Bandelier museum collection website: www.cr.nps.gov/museum/exhibits/band
(or go to the Bandelier website and click on the collections icon)

READING TREE-RING DIAGRAMS

The tree-ring drawings in this activity are from imaginary trees, to make it easier to work with them. The kit available from Bandelier contains slices from various kinds of trees, if you and your class wish to go on to making your own diagrams after working with the fictional ones. These directions apply to use of the drawings.

The drawings portray cross-sections of three different trees of the same species (Ponderosa pine). Accompanying the cross-sections is a "master" diagram showing the widths of the rings formed over a series of years, with the years labeled.

To use the diagram, see the sketches of the steps involved. First, fold the drawing of a cross-section in quarters, with both folds going through the center of the circles. Notice that where the rings cross both folded edges, they look very much like the diagram. Lay either folded edge on the diagram, and slide it back and forth until the spaces between the rings line up with matching spaces on the diagram. Now, because you know what years are shown on the diagram, you can figure out what years each tree lived. Don' t be surprised if the rings on some drawings don' t exactly match the ones on the diagram. The overall pattern of numbers of thin and think rings, as well as how thick or thin each one appears, should make it possible to determine which ones match. The answers are shown on the teacher's resource version but not on the student version.

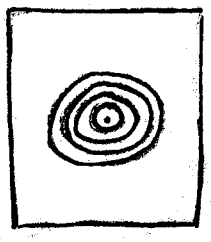
Answers:
A. Lived from 1398 – 1410

B. Lived from 1374 – 1392

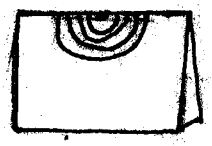
C. Lived from 1381 - 1406

Teacher Resource Sheet
Tree-Ring Dating

Using a Tree-Ring Diagram to Date a Sample

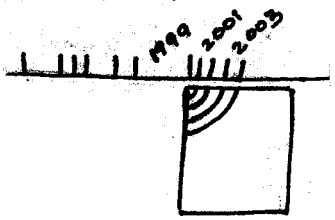


Step 1



Step 2

Step 3

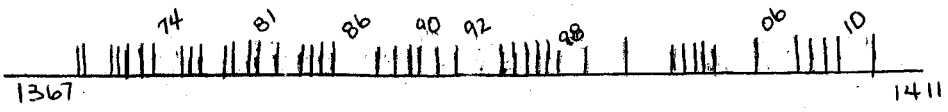


Master Diagram

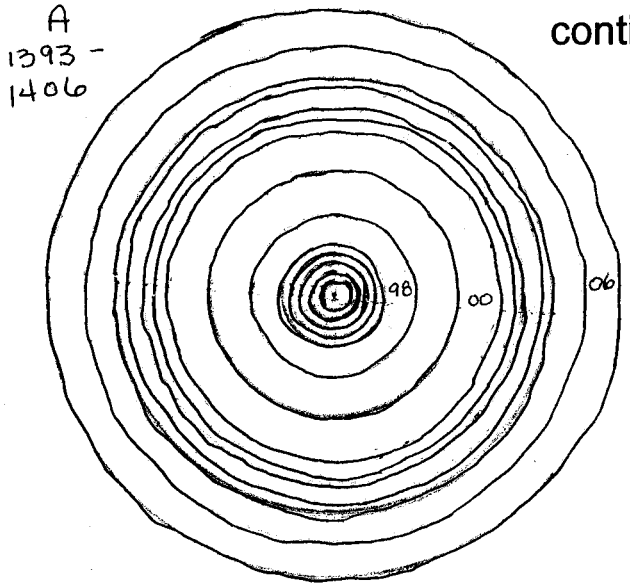
Folded Sheet

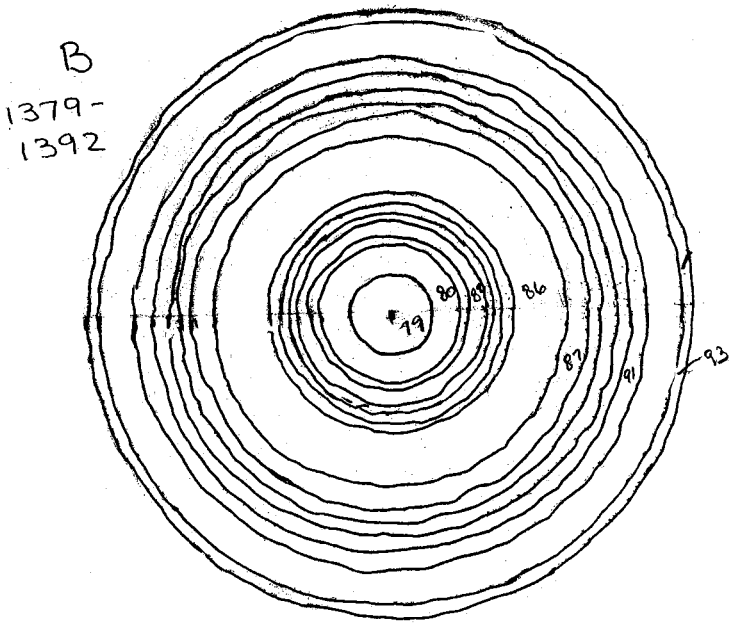
Result: years shown are 2000 – 2004

Tree-ring Master Diagram



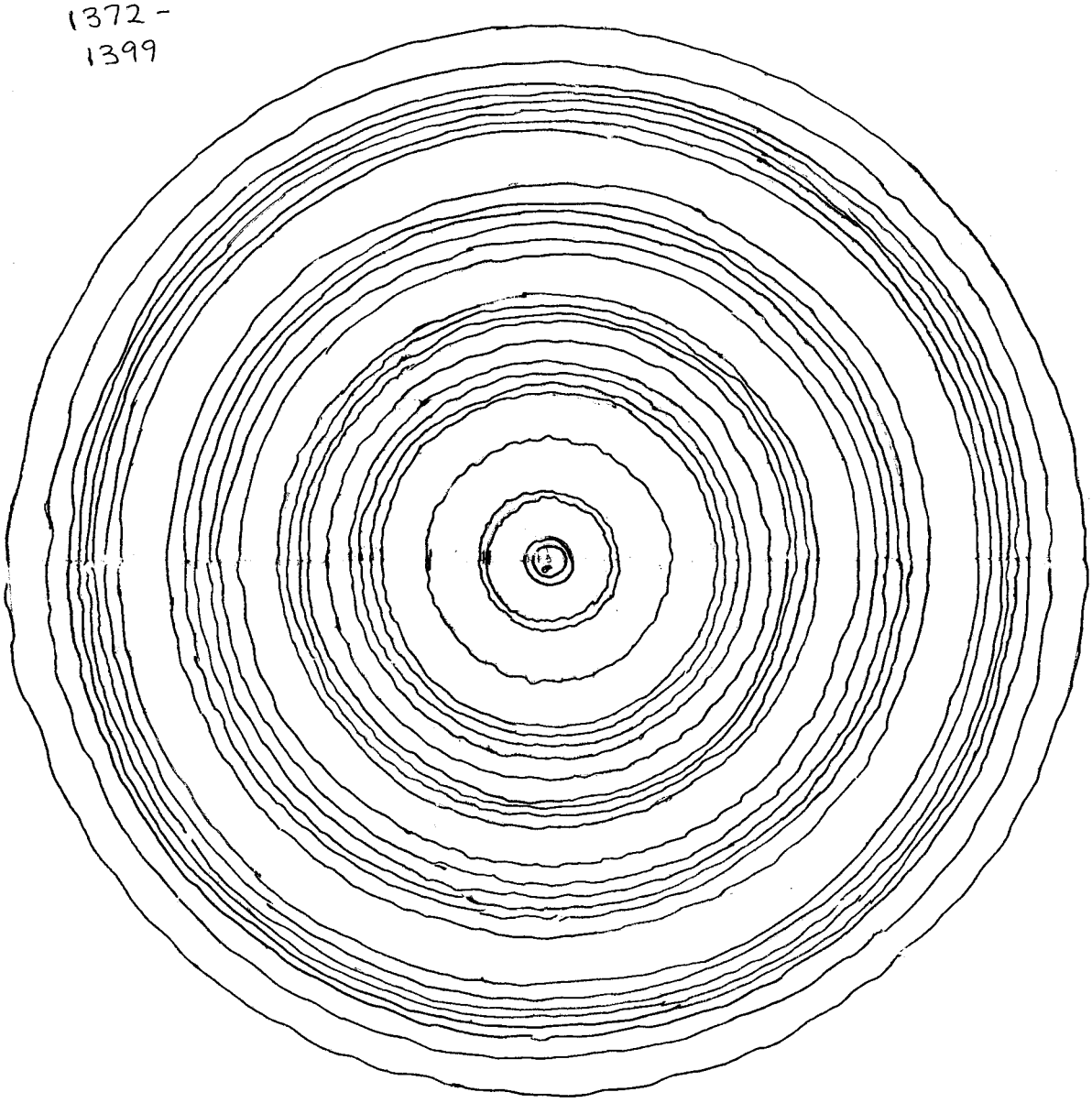
Teacher Resource Sheet
Tree-Ring Dating
continued



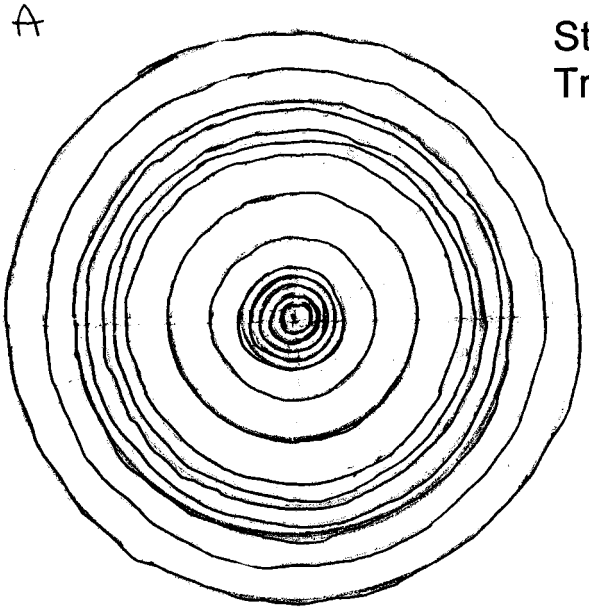


Teacher Resource Sheet
Tree-Ring Dating
continued

C
1372 -
1399

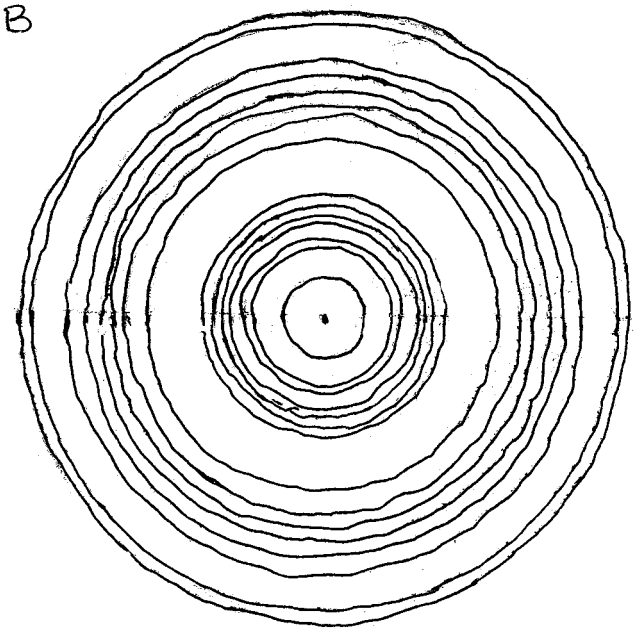


A



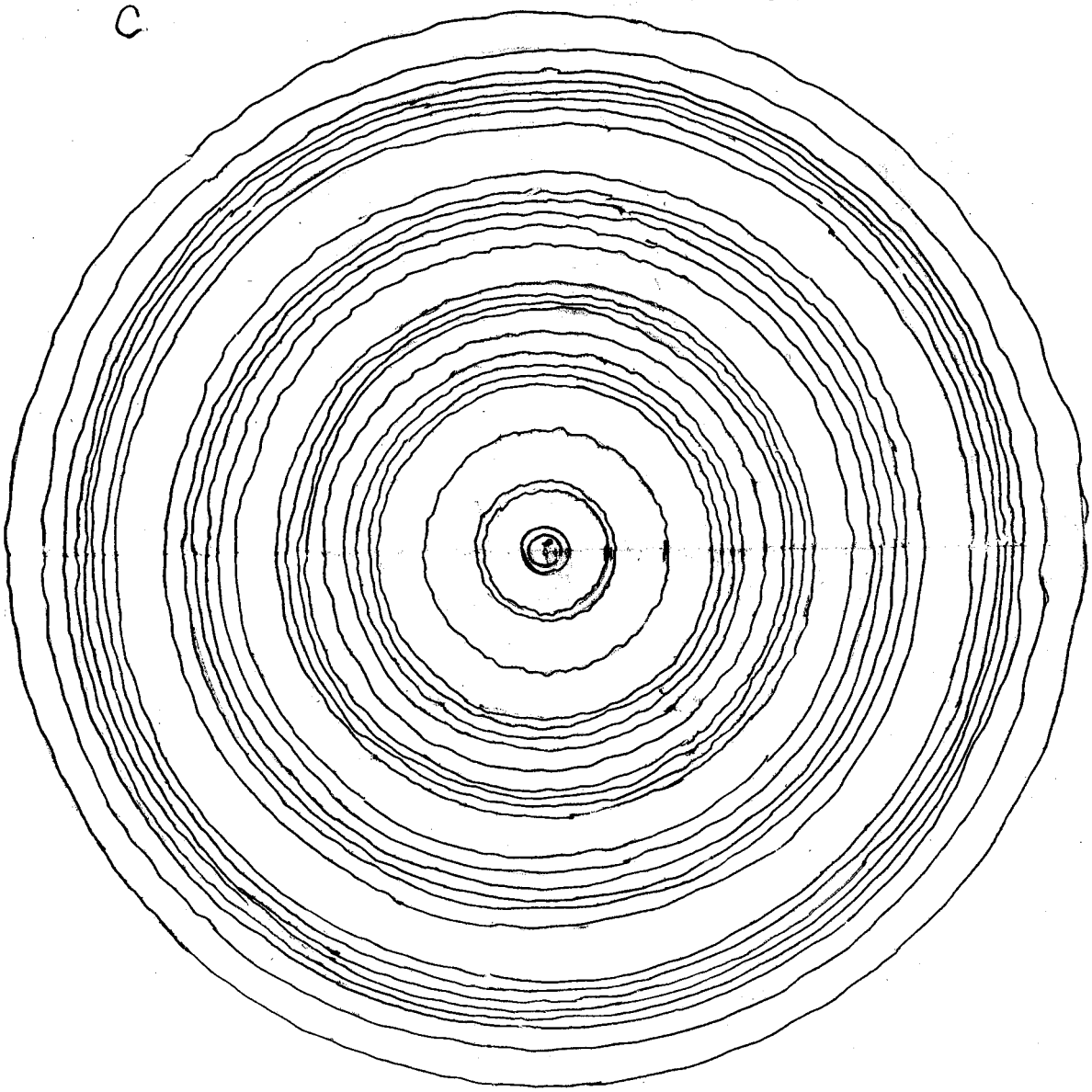
Student Resource Sheet
Tree-Ring Dating

B



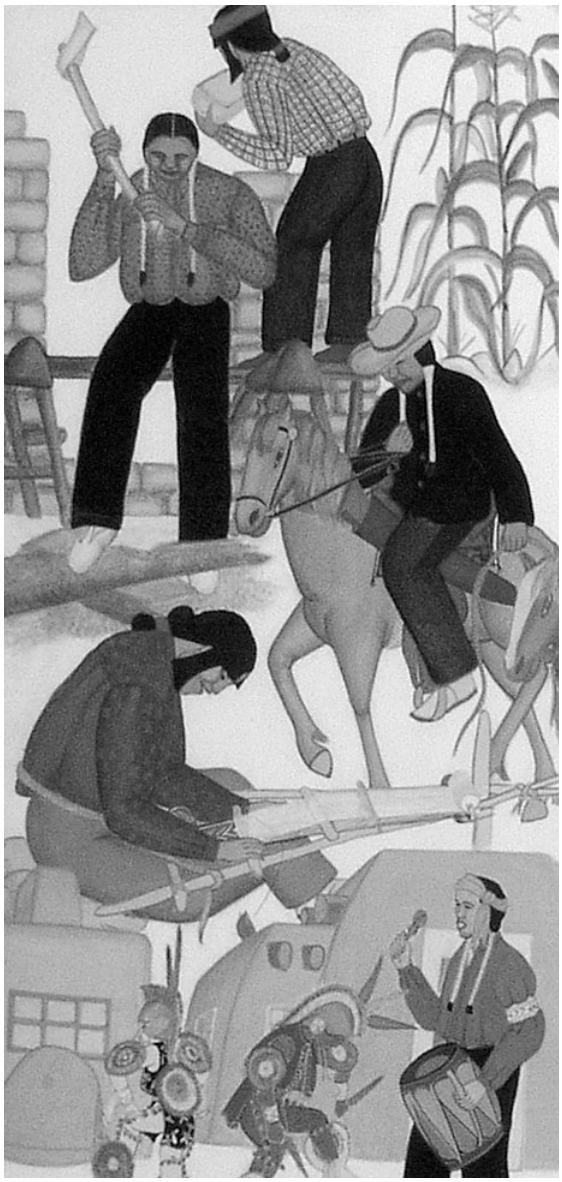
Student Resource Sheet
continued

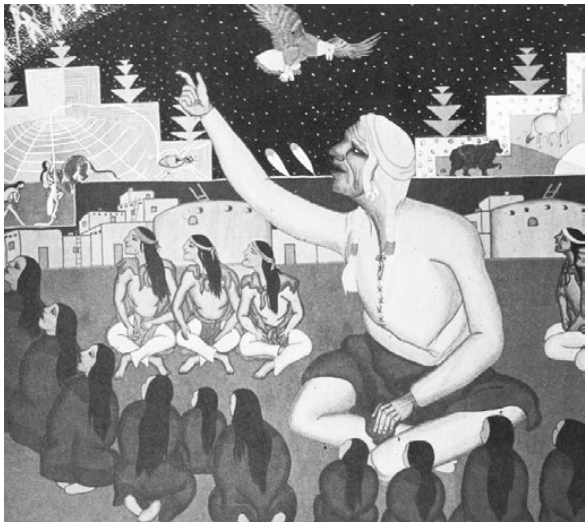
C.



Lesson Plan: Learning from Oral Traditions

Students read or listen to traditional Pueblo stories to explore the role that oral tradition plays in preserving cultural values and educating Pueblo children in community customs.





Location: classroom
Suggested group size: whole class, sometimes divided into smaller groups
Subject(s): language arts, history, theater/drama
Concepts covered: oral tradition, myths, legends
Written by: Chris Judson, Bandelier National Monument
Last updated: 12/2005

Student outcomes: Students will understand the idea of oral tradition, how it is used in the Ancestral Pueblo and present-day pueblo culture, and why present Pueblo people still consider it important to their culture. They will also gain understanding of the presence of oral tradition in non-Pueblo present-day culture.

EDUCATIONAL STANDARDS

New Mexico Standards

Social Studies

Strand: History

K-4 Benchmark III-B: Identify and describe the symbols, icons, songs, traditions, and leaders of local, state, tribal, and national levels that exemplify ideals and provide continuity and a sense of community across time.

Grade 4

1. Describe various cultures and the communities they represent, and explain how they have evolved over time.

Art

Content Standard 1: Learn and develop the essential skills and technical demands unique to dance, music, theatre/drama, and visual arts.

Theatre

K-4

A. Use body and voice to portray character that contributes to the action of a dramatization.

1. Demonstrate the ability to concentrate and stay in character for the duration of short improvised dramatizations.

B. Select characters, environments, and situations for dramatizations.

1. In small or large group discussions, describe in detail what they imagine characters in their dramatizations look like, how they behave, how they feel about other characters, and where they live.

C. Improvise dialogue to tell stories.

NATIONAL STANDARDS

History

Topic 1 Living and Working Together in Families and Communities, now and long ago

Standard 1A, Grades K-4: The student understands family life now and in the recent past; family life in various places long ago

Standard 1B Grades K-4: The student understands the different ways people of diverse racial, religious, and ethnic groups, and of various national origins, have transmitted their beliefs and values

Standard 2B Grades K-4: The student understands how communities in North America varied long ago

Grade K-4: Compare and contrast the different ways in which early Hawaiian and Native American peoples such as the Iroquois, the Sioux, the Hopi, the Nez Perce, the Inuit, and the Cherokee adapted to their various environments and created their patterns of community life long ago. (Compare and contrast differing sets of ideas)

Grade 3-4: Compare and contrast how Native American or Hawaiian life today differs from the life of these same groups over 100 years ago (Compare and contrast differing sets of ideas)

Topic 3: The History of the United States: Democratic Principles and Values and the People from Many Cultures Who Contributed to its Cultural, Economic, and Political Heritage

Standard 6A: The student understands folklore and other cultural contributions from various regions of the United States and how they help to form a national heritage

Standard 7: Selected attributes and historical developments of various societies in Africa, the Americas, Asia, and Europe

7A: The student understands the cultures and historical developments of selected societies in such places as Africa, the Americas, Asia, and Europe

Grade 3-4: Investigate the ways historians learn about the past if there are no written records

I. Culture

Early Grades

a. explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns

c. describe ways in which language, stories, folktales, music, and artistic creations serve as expressions of culture and influence behavior of people living in a particular culture

Middle Grades
a. compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns

c. explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture

English Language Arts
K-4 Benchmark III-A: Use language, literature, and media to gain and demonstrate awareness of cultures around the world

Grade 4
1. Examine the reasons for characters' actions

2. Identify and examine characters' motives

3. Consider a situation or problem from different characters' point of view.

K-4 Benchmark III-B: Identify and use the types of literature according to their purpose and function

Grade 4
1. Identify beginning, middle, and end of a story.

4. Compose fiction, non-fiction, poetry, and drama using self-selected and/or assigned topics and forms.

MATERIALS
Paper, pencils

Creation Story by Cecilia Shields, at end of lesson plan

Books:
"Coyote &"

"The Good Rainbow Road"

"Old Father Storyteller"

or similar (available for loan from Bandelier, 505-672-3861 x 517; see full citations under "Resources" section at end of lesson plan)

VOCABULARY

Archeologist: a scientist who learns about groups of people, particularly those in the past, by studying places they have lived and items they used

Consequences: what happens when someone does a particular thing; for instance, something bad that happens if someone breaks a rule

Culture: a group of people who share traditions, beliefs, and customs. Sometimes used to mean the traditions, beliefs, and customs themselves, and things or activities related to them.

Elder: an older member of a group, depended on by others for their knowledge and wisdom

Ethnographer: a scientist who studies about groups and their culture past and present by learning about current customs

Generation: the continuity of people or families, as in grandparents, parents, and children make three generations. Also used to mean the time from one set to the next, how many years from the time someone is born until they have a child.

Legend: a story that has been told for many years, often for so long that it is hard to know if it did actually happen

Myth: usually a story that involves characters doing things that probably never could have happened

Oral: saying something instead of putting it in writing

Puye: a site considered by the Santa Clara Pueblo people to be a home of their ancestors

Tradition: the way a particular group of people chooses to do something, often passed down through many generations

Witch: one English translation for the Pueblo idea of someone who was willing to hurt other members of the community in order to have power; the word has other meanings in other cultures

PRE- AND POST-EVALUATION

Pre-Evaluation: (choose among)

1. Ask the class if they think it would work better to learn rules by talking or by reading, or if there are other ways that are better, and why. Write the ideas on the board or a piece of flipchart paper, and save for later.

2. Ask the students what "oral tradition" is and whether it is used in their culture.

3. Ask the students if they can think of any ways that oral tradition has been important to Ancestral and present-day Pueblo people for holding on to their customs and culture.

Post-Evaluation:

1. Bring out the flipchart from 1. above. Go over the ideas and see if the students have more to add, some things they don' t think any more, or things they see differently now.

2. Again ask the question concerning what oral tradition is and whether it is used in the students' culture, and see if they have different views now.

3. Again ask the question concerning the importance of the oral tradition to Ancestral and present-day Pueblo people and see if they have more or different ideas

4. Have the students write and illustrate their stories from Activity 4A and post them in a public place in the school. Have them make a title and caption for the exhibit as a whole, to explain the purpose of the stories. Have them make a list of the themes of the stories and post it, so other students can match the themes to the corresponding stories.

PROCEDURES: ACTIVITIES TO CHOOSE FROM

1A. Initiate a discussion with the class about the many skills known to Ancestral Pueblo people, and how young people would have learned them. Stress the idea that the people had no written language, but they had complex skills and extensive knowledge to pass from generation to generation. Brainstorm with the class to make a list of particular skills and knowledge that, if they were Ancestral Pueblo elders, they would want to be sure were not lost. Be sure to include some concrete skills and some that are not concrete (see examples below) . Then brainstorm ways the students think would be effective for passing each kind of information from one generation to the next.

Skills might include:

- Concrete: making arrows, making bows, making arrowheads, planting seeds, grinding corn, building a house, spinning thread, weaving cloth, sewing moccasins, weaving sandals, butchering a deer, tanning a rabbit skin, making paint for pottery, making pottery, firing pottery (and so many more)

- Non-concrete: knowing why a particular rule is important, knowing the words to songs for a particular ceremony, knowing when the corn is ripe and needs to be picked, knowing when to plant in the spring, knowing when to gather plants so they would be effective as medicine, knowing landmarks to find your way on a trading trip, knowing the locations of water sources away from the home village (and so many more)

1B. Divide the students into small groups. Have each group choose one item from the list to teach, and decide on a way they could teach it to the class using methods available to the Ancestral Pueblo people. They could do a demonstration, give instructions, tell a story with the idea built in, or try other ways. Just be sure no written words, electronic devices, sheets of paper, etc. are involved. Have each group take their turn. Ask the class their reactions - do they like learning that way? Do they think they would have learned better doing it orally or by reading? As an option, the next day or several days later, ask students to go over something they learned from one of the other groups. How well did they remember?

2. Look through the books, *Coyote & and Old Father Storyteller* for one or more stories that would be appropriate for the class' objectives, and read them aloud, or read *The Good Rainbow Road.* That day, or a day or two later, have the students divide into groups and have each tell one of the stories, or act it out, without referring to the book. How well did everyone remember the plot and the details? Ask them if they would rather have learned the stories by listening or by reading them silently.

3. Many cultures have stories like "Long Sash" (in Old Father Storyteller), and the Creation Story from Picuris Pueblo included at the end of this lesson plan, that explain how the world came to be the way it is. Ask the students why they think the elders would tell stories of this type. Ask the students if they can think of any famous non-Pueblo stories that provide similar explanations.

4A. Ask the students, "If you were an Ancestral Pueblo elder and you wanted to teach the children why a particular rule or custom was important, how would you do it?" Often elders showed the children the consequences of misbehaving or disrespecting traditions by telling a story in which a character, often Mr. Coyote, disregards the rules. Several of these appear in

Coyote &. Read one or two to the class. Have the students work in pairs, small groups, or as individuals to come up with very short stories set in the present that are intended to teach their classmates the importance of a particular present-day rule or custom. Examples might be such things as looking both ways before crossing the street, never making fun of anyone, eating your vegetables, telling the truth, doing your homework on time, listening in class, telling your parents where you will be, etc.

Share some of the stories with the class and ask them to tell what rule was being presented. Ask the students if they can think of any famous stories/books/movies that made them realize why it was important to act a certain way or follow a certain rule.

4B. As a class or in small groups, have the students make a list of things that were taught to young Ancestral Pueblo people and are still important for students to learn today. Examples could include manners, personal hygiene, the proper way to wear various pieces of clothing, cooking, sewing, using tools, building houses, stories of their people' s history, taking care of minor injuries, avoiding dangers, what your group knows about other groups around you, social skills like relating to people of the opposite gender, where to find water or wild herbs, and so many more.

EXTENSION IDEAS

1. The Ancestral Pueblo people told stories each winter, and over time everyone in a particular group would know all the stories that their local storytellers had to offer. Is there any story that everyone in the class really knows from beginning to end? Is there any part of the history of their school, city, state, or nation that everyone knows well? Is there any song that everyone knows from beginning to end? How did they learn it - by listening or reading?

2. Ask the students if they think they could learn another language better by looking in a book or by hearing stories told by a native speaker. If they were present-day Pueblo parents who wanted to be sure that their children could speak their own language, what would be one way for them to practice? Sometimes stories contain old or unusual words that are not used in regular conversation. Can the students think of any words like that in stories told in non-Pueblo languages? (examples: ' twas, once upon a time, yonder, beanstalk, olden, thence, happily ever after)

3. Look at the lesson plan "Making Pueblo Pottery" for ideas on learning a particular skill. It utilizes a video of Maria Martinez, the late master potter from San Ildefonso Pueblo, showing the stages of traditional Pueblo pottery making.

4. Have someone who is skillful at a particular craft or technique come to the class and demonstrate their methods. Afterwards, ask the students if they think they would have learned the skill better that way or from a book.

5. In pairs, small groups, or individually, ask the students to write directions for doing something fairly complicated. Distribute the resulting directions to other groups and ask them to read through the description very carefully. Ask them if they think they would be able to do the activity correctly without having someone show them. If possible, have them try doing it (this would be difficult if it is something like putting a saddle on a horse or changing the oil in a car!). Or, have each group write directions for doing a particular action without saying what the action is. Post them or read them to the class and see if other groups can figure out what is being done.

6. Ask the students to imagine they are archeologists or ethnographers, studying old legends. Could you look at stories and find clues about the way people lived long ago when the story was first told? These could include such things as tools, rules, clothing, and customs being used by the characters.

7. After the Spanish came to New Mexico, many stories were shared between the Pueblo people and the newcomers. In the process, new things appeared in old stories, like characters riding horses or using metal tools. In the stories you read in this lesson, did you notice any things like that? (Look at C*oyote and His Bow*, *Coyote and Rabbit*, and others)

RESOURCES

Available for loan from Bandelier, 505-672-3861 x 517:

Books:

Available for loan from Bandelier, 505-672-3861 x 517:

Hayes, Joe, Coyote &, *Native American Folk Tales retold by Joe Hayes*, Mariposa Publishing, Santa Fe, NM 1983 (ISBN 0-93553-01-3)

Ortiz, Simon J., *The Good Rainbow Road*, University of Arizona Press, Tucson, 2004 (ISBN 0-8165-2340-1)

Velarde, Pablita, *Old Father Story Teller*, Clear Light Publishers, Santa Fe, NM, 1989, (ISBN 0-940666-24-3)

Videos for loan from Bandelier:

Pablita Velarde (video or DVD) 25 min. Pablita talks about the time she spent at Bandelier in the 1940s doing paintings for the park museum, and also about her book "Old Father Story Teller".

Pablita Velarde: Golden Dawn, (video) from KNME series *"Colores!"*. Pablita tells about her book, "Old Father Story Teller," and paintings she's done.

Voices (VHS) 15 min. Larry Littlebird, Max Salazar, and Rachel Agoyo share stories from New Mexico's three cultures in a casual session of storytelling. From the KNME series "Colores!"

Web Resources:

Bandelier website: www.nps.gov/band

Bandelier museum collections website: www.cr.nps.gov/museum/exhibits/band or click on the "collections" icon on the Bandelier website

Creation Story

as told by Cecilia Shields, Picuris Pueblo

In the beginning, before the People lived upon this earth, they lived below this world. In this underworld, the People struggled to survive. Life was difficult and the People prayed for a better life. The Creator heard their pleas and sent them on a long journey below this world. For years and years the People journeyed. Far off in the distance, they could hear digging and scratching noises. As the sounds grew closer, they saw a mole and this mole began to talk to the People. He told the People that he had been digging this hole for a long time and that through this hole the People were to emerge into a better world. With that, he called the Ant People together and they built a huge ladder. One by one on the backs of the Ants, the People slowly emerged into this world. Upon reaching this new world of light, the People were instructed by Grandmother Spider Woman to continue their journey to find their homelands. She told them that when they found her sign and the sign of the Mole, that was where they were to make their homes. So the People set off.

First they traveled to the north. There they found a land that was blanketed by ice and snow. Tired from traveling such a long distance, they rested. After some time of searching for the sign of the Mole and Spider Woman, they packed up and set off to journey again. When it was time to leave, some of the People decided to stay in this land to the North. They knew life would be hard and so they called upon the Bear to become the protector of the People to the North. The Bear knew how to survive in a land that was so cold and he knew how to find food. And so it was that the rest of the group walked to the west.

In the west, they found a land that was very dry and very hot. Tired from traveling such a long way, the People decided to rest in this land. After finding no sign of the Mole or Spider Woman, the People packed up and readied themselves for another long journey. When it came time to leave, some of the People decided that they wanted to travel no more and wanted to make the West their home. They called upon the Coyote to become the protector of the People to West. He knew how to live in land where water was scarce and the days were long and hot. And so it was that the rest of the group walked to the East.

Slowly they traveled. In the East, they found a land that was lush, green, and beautiful. The People were certain that this was where they would find the signs they had been searching so long for. Here they rested and searched for the sign of the Mole and Spider Woman. Finding nothing, the People decided it was time to pack up and leave this area. Some of the group decided to stay in the East. Here, they called upon the Cougar to become the protector of the People to the East. He knew how to live in a land where the weather changed so quickly. And so it was that the rest of the group walked to the South.

The journey South was long and difficult. The People were becoming discouraged. Slowly they walked. Traveling for such a long time, the People decided to rest along the banks of a river. Here they stayed for some time. As the women went to collect water from the river, they noticed faint mole tracks. Quickly they ran to get the others. The People followed the tracks until they came to their end. Here, at the end of the tracks, was an animal, an animal none of them had ever seen. It had a little round head and a hard thing that rested on its back. Every time someone got close to it, the animal would pull its little head into the hard covering on its back.

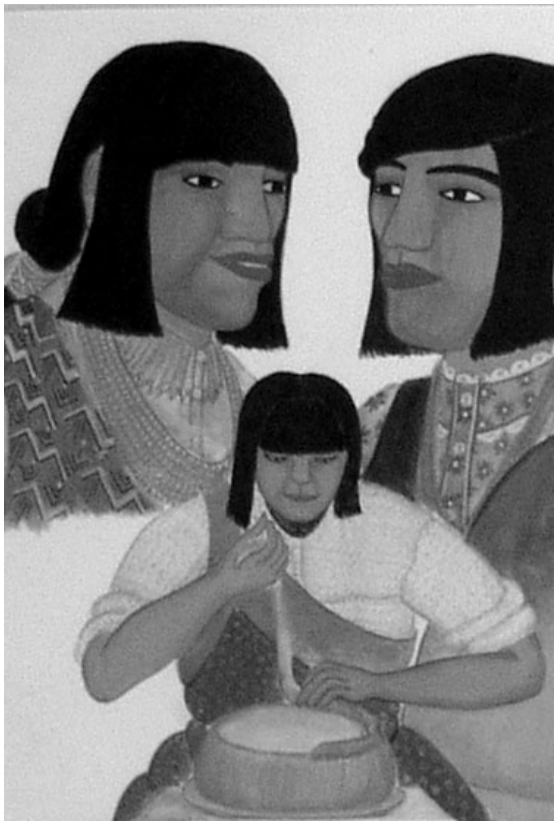
Disappointed, the People cried because they had not found the Mole or Spider Woman but some creature they had not seen before. The leader of the group came forward and began to talk to the People. He reminded them of their long journey and about how slowly they traveled with all they had on their backs. He told them to watch the strange creature. As they observed the creature they noticed that he walked very slowly and that the hard thing on his back was his home. Their leader advised the People that this animal had traveled like they had, very slowly and carrying their homes on their backs. He told them to look at its tracks, which resembled those of the Mole, and as for the sign of Spider Woman, it was carved on the back of the animal. It was her web carved into the shell of this animal you and I know as a turtle.

The People had found the signs they had been searching for! In the land to the South, the People scattered and made their homes on the mesa tops, in the canyons, and along the life-giving waters. This was now their homeland.

Cecilia Shields, from Picuris Pueblo, is a park ranger at Bandelier

Lesson Plan:
What Can We Learn From Pueblo People Today?

Students will put themselves in the place of ethnographers, and of the people they study, to determine what kinds of information on ancient cultures can be drawn from the people' s present-day descendants, and the questions of tact and sensitivity that are involved in that kind of study.



Location: classroom
Suggested group size: individuals, small groups, whole class
Subject(s): history, social studies, language, archeology
Concepts covered: cultural continuity, cultural sensitivities, importance of the knowledge and wisdom of community elders
Written by: Chris Judson, Bandelier National Monument
Last updated: November 2004

Student outcomes: At the end of this activity, students will understand that present cultures contain elements of the lives and customs of their ancestors, and that scientists can learn about the past by talking to people in the present. They will also realize that members of any culture may not be comfortable sharing all aspects of that culture.

EDUCATIONAL STANDARDS

New Mexico State Standards

Language Arts
K-4 Benchmark I-D: Acquire reading strategies

Grade 4-5: Increase vocabulary through reading, listening, and interacting

Social Studies
Strand: History

K-4 Benchmark I-D: Understand time passage and chronology.

Grade 4
1. Describe and explain how historians and archeologists provide information about people in different time periods.

K-4 Benchmark III-B: Identify and describe the symbols, icons, songs, traditions, and leaders of local, state, tribal, and national levels that exemplify ideals and provide continuity and a sense of community across time.

Grade 4
1. Describe various cultures and the communities they represent, and explain how they have evolved over time.

NATIONAL STANDARDS

History
Topic 1: Living and Working Together in Families and Communities, now and long ago

Standard 1A, Grades K-4: The student understands family life now and in the recent past; family life in various places long ago

Standard 1B Grades K-4: The student understands the different ways people of diverse racial, religious, and ethnic groups, and of various national origins, have transmitted their beliefs and values

Standard 2B Grades K-4: The student understands how communities in North America varied long ago.

Grade K-4: Compare and contrast the different ways in which early Hawaiian and Native American peoples such as the Iroquois, the Sioux, the Hopi, the Nez Perce, the Inuit, and the Cherokee adapted to their various environments and created their patterns of community life long ago. (Compare and contrast differing sets of ideas)

Topic 2: The History of Students' Own State or Region

Standard 3 K-4: The people, events, problems, and ideas that created the history of their state

3A: The student understands the history of indigenous peoples who first lived in his or her state or region

Grade 3-4: Compare and contrast how Native American or Hawaiian life today differs from the life of these same groups over 100 years ago (Compare and contrast differing sets of ideas)

Topic 3: The History of the United States: Democratic Principles and Values and the People from Many Cultures Who Contributed to its Cultural, Economic, and Political Heritage

Standard 7: Selected attributes and historical developments of various societies in Africa, the Americas, Asia, and Europe

7A: The student understands the cultures and historical developments of selected societies in such places as Africa, the Americas, Asia, and Europe

Grade 3-4: Investigate the ways historians learn about the past if there are no written records (Compare records from the past)

Grade K-4: Compare and contrast various aspects of family life, structures, and roles in different cultures and in many eras with students' own family lives (Compare and contrast)

Social Studies

I. Culture

Middle Grades

a. compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns

c. explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture

II. Time, Continuity, and Change

Middle Grades
b. identify and use key concepts such as chronology, causality, change, conflict, and complexity to explain, analyze, and show connections among patterns of historical change and continuity

d. identify and use processes important to reconstructing and reinterpreting the past, such as using a variety of sources, providing, validating, and weighing evidence for claims, checking credibility of sources, and searching for causality

English Language Arts
7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.

MATERIALS

References on and/or by present-day Pueblo people, about their lives and culture. available for loan from Bandelier: (505-672-3861 x 517)

O' Donnell, Joan K, Here, Now, and Always, Voices of the First Peoples of the Southwest, Museum of New Mexico Press, Santa Fe, New Mexico 2001***

Ruch, Marcella J. Pablita Velarde Painting Her People, New Mexico Magazine, Santa Fe, NM, 2001 ***

Keegan, Marcia, Pueblo Girls

Rina Swentzel, Children of Clay

Video or DVD:
Pablita Velarde

BACKGROUND

An ethnographer is a scientist who studies groups of people, and also sometimes their ancestors. Ethnographers focus on spending time with the people, talking with them, and learning about their lives, customs, and traditions directly from them. The information they record can be useful in many ways. Often an archeologist will find an object or a drawing and be unsure what it was or what it was used for. Present-day people who are related to the ones who lived in that site may be able to explain what it is, how it was used, what it means, or how it should be treated to show respect to the ancient owners. Archeologists may act as, or work with, ethnographers when planning a study, consulting with present-day

relatives of inhabitants of archeological sites to find out what will or will not be regarded as appropriate when working there. Reports written by ethnographers in the early 1900s help with understanding changes happening in cultures studied today. Present-day people from the Pueblos and other tribes sometimes go to the old reports to help them rediscover knowledge and customs from their own past that have since been lost.

Being an ethnographer requires great tact and sensitivity, because you want to learn as much as you can, but you know you must treat the people you study with courtesy and respect. Almost every group has knowledge that they do not share with outsiders, things that are special just to them. Ethnographers have to know how to build the trust of the people with whom they work. One important element is showing the people that they will respect the limits of what can be shared, and treat information appropriately.

VOCABULARY

Archeologist: a scientist who studies people, usually from the past, by looking at things and places that they used

Customs: traditional ways of doing things

Ethnography: a part of the science of anthropology, in which scientists learn about cultures past and present by working among the people themselves or their descendents

Site: a location; often used to mean a place where people lived and/or where archeological work is being done

Tact: the process of saying or doing the right thing to avoid offending someone

PRE- AND POST-EVALUATION:

Pre-evaluation:

Ask the class to brainstorm a list of things that they think they could learn about Ancestral Pueblo people' s lives from present-day Pueblo culture.

Post-evaluation:

Go over the original list. See if there are questions that can be added, and if there are any that no longer seem appropriate

PROCEDURES: ACTIVITIES TO CHOOSE FROM

1A. Have the class look at books written by or about present-day Pueblo people, such as the ones listed in this lesson under "Materials" and "Resources". Ask the students to find sections of these books that include information about Pueblo customs or knowledge from long ago and to write a paragraph summarizing what they have learned. Have them present their summaries to the class.

1B. Discuss why it might be difficult to find information like this for groups of people whose languages are not written down, both in the past and in the present.

2A. Ask the students to put themselves in the place of an ethnographer planning to study the Pueblo culture. As individuals, small groups, or in a class brainstorming session, ask them to write what questions they would want to ask a present-day Pueblo person who was willing to share knowledge with them. Do they think that any of the questions would be too personal or too impolite to ask? Or, try to put yourself in the place of the Pueblo person – what kinds of questions would you think were offensive or rude? What questions would you think would really help other people understand important parts of your culture? Possible questions (which might or might not be appropriate, depending on the person being asked) might include:

- Do you know any stories from long ago that you could share with us?
- What do you know about the way your ancestors lived before the Spanish came?
- Can you tell us why they made drawings on the cliffs?
- Do you know any games they played long ago?

2B. If anyone in the class knows a Pueblo person who would be willing to come in and talk to the class and answer questions (or someone from some other culture that is different than that of most of the students) arrange for them to visit. Have the students write down ahead the questions they would like to ask. Consider using those questions to make a class list. (see the attached list for possible ideas.) Have the class review the chosen questions to see if there is anything that might not be tactful. Be sure that the students and the speaker know that the speaker is free to choose not to answer any question. Decide if the students should take notes or record information in some other way, and ask the speaker if it is permissible.

2C. After the speaker' s visit, have the class make a list of all the things they learned from the speaker. Did they learn just about life now, or did some things relate to people in the past? Did they learn anything that would help an archeologist know more about the way people lived long ago? Did they understand why there might be some questions the speaker did not wish to answer?

EXTENSION IDEAS

1. Have each student write a short paper about a custom in their family or among their friends, such as a particular way they celebrate a holiday, the reason they dress a certain way, or a tradition in the school or town. Share the stories in small groups or with the class, and see if telling about something we do now also says something about our history.

RESOURCES

Books

Books available for loan from Bandelier (505-672-3861 x 517):

Gibson, Daniel, *Pueblos of the Rio Grande, A Visitor's Guide*. Rio Nuevo Publishers, Tucson, AZ, 2001 (ISBN 1-887896-26-0)

Keegan, Marcia, Pueblo Girls, *Growing Up in Two Worlds*. Clear Light Publishers, Santa Fe, NM, 1999 (ISBN 1-57416-020-6)

O'Donnell, Joan K, ed, Here, *Now, and Always, Voices of the First Peoples of the Southwest*. Museum of New Mexico Press, Santa Fe, NM, 2001 (ISBN 0-89013-387-5)

Panchyk, Richard, *Archeology for Kids, Uncovering the Mysteries of Our Past*, Chicago Review Press, 2001, (ISBN 1-55652-395-5)

Swentzel, Rina, *Children of Clay, A Family of Pueblo Potters*. Lerner Publications, Minneapolis, MN, 1992 (ISBN 0-8225-9627-X)

Web Information:

Bandelier website: www.nps.gov/band

Bandelier museum collection items: www.cr.nps.gov/museum/exhibits/band or go to the Bandelier website and click on the collections icon

** ALSO ** You may be interested in investigating a program called Project Archeology and its manual *Intrigue of the Past, Discovering Archeology in New Mexico*. For information on workshops, contact the Heritage Education Team, Bureau of Land Management, Anasazi Heritage Center, PO Box 758, Dolores, Colorado, 81323, (303) 882-4811

SAMPLE INTERVIEW QUESTIONS

(note: these have been used in actual interviews with Pueblo people)

What pueblo are you from?

What language do you speak?

What is your name in your language and what does it mean?

What things best show the connections between the Ancestral Pueblo people and the Pueblo people today?

What cultural ties do the many pueblos have with each other?

Do you have a special thing - a sound, sight, smell, story - that reminds you of your ancestry?

Why is it important for people to respect places where your Pueblo ancestors lived (like Bandelier National Monument)?

Many people do not understand the significance of petroglyphs. If you had to explain why they are important and what they mean, what would you say?

If you were talking with Pueblo youth about the importance of continuing to use your language and continuing your traditions, what would you say?

What special skills and traditions have you shared with your children?

Why is talking to the Pueblo people about their culture just as important as learning about it from archeologists?

What would you tell the world if you had to express why it is important to appreciate the diversity of cultures?

Lesson Plan: Pueblos Affiliated with the Park

As the culmination of the unit on the Pueblo people of Bandelier, this lesson focuses on the six present-day Pueblos that consider themselves most closely related to the park area. Students look at lifeways and traditions of present-day pueblos.

Location: classroom
Suggested group size: whole class for some activities; small groups for others
Subject(s): social studies, history, language arts, art
Concepts covered: culture, continuity and change, compare and contrast
Written by: Lynne Dominy & Chris Judson, Bandelier National Monument
Last updated: August 2005

Student outcomes: At the end of this activity, students will be able to identify characteristics of present-day pueblos, especially the six affiliated with Bandelier.

EDUCATIONAL STANDARDS

New Mexico State Standards

Art

Content Standard 2: Use dance, music, theatre/drama, and visual arts to express ideas.

Visual arts Grade K-4

1. Identify similarities and differences in the ideas, customs and art of others

Content Standard 6: Show increased awareness of diverse peoples and cultures through visual and performing arts.

Visual arts Grade K-4

1. Determine the function of various works of art and artifacts within a specific culture.

Language Arts

Grade 4

K-4 Benchmark III-C: Be familiar with aspects of human behavior and man-made and natural environments in order to recognize their impact on the past and present

Social Studies

Strand: History

K-4 Benchmark III-B: Identify and describe the symbols, icons, songs, traditions, and leaders of local, state, tribal, and national levels that exemplify ideals and provide continuity and a sense of community across time.

Grade 4

1. Describe various cultures and the communities they represent, and explain how they have evolved over time.

NATIONAL STANDARDS

Visual Arts

5 - 8 Content Standard 4: Understanding the visual arts in relation to history and cultures

Students describe and place a variety of art objects in historical and cultural contexts

History

Topic 1 Living and Working Together in Families and Communities, now and long ago

Standard 2B Grades K-4: The student understands how communities in North America varied long ago

Grade K-4: Compare and contrast the different ways in which early Hawaiian and Native American peoples such as the Iroquois, the Sioux, the Hopi, the Nez Perce, the Inuit, and the Cherokee adapted to their various environments and created their patterns of community life long ago. (Compare and contrast differing sets of ideas)

Topic 2: The History of Students' Own State or Region

Standard 3 K-4: The people, events, problems, and ideas that created the history of their state

3A: The student understands the history of indigenous peoples who first lived in his or her state or region

Grade K-4: Draw upon data in paintings and artifacts to hypothesize about the culture of the early Hawaiians or native Americans who are known to have lived in the state or region, e.g., the Anasazi of the Southwest, the Makah of the Northwest coast, the Eskimos/Inupiat of Alaska, the Creeks of the Southeast, the Mississippians (Cahokia) or the Mound Builders (Formulate historical questions)

Grade 3-4: Compare and contrast how Native American or Hawaiian life today differs from the life of these same groups over 100 years ago (Compare and contrast differing sets of ideas)

Standard 7: Selected attributes and historical developments of various societies in Africa, the Americas, Asia, and Europe

Grade 3-4: Investigate the ways historians learn about the past if there are no written records (Compare records from the past)

Grade K-4: Compare and contrast various aspects of family life, structures, and roles in different cultures and in many eras with students' own family lives (Compare and contrast)

Geography
As a result of their activities in grades K-12, all students should understand:
K-12.4 Human systems

11. the patterns and networks of economic interdependence on earth's surface

Social Studies
I. Culture

Early Grades
a. explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns

Middle Grades
a. compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns

c. explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture

English Language Arts
1. Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, class, and contemporary works.

7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.

MATERIALS

Available on loan from Bandelier; contact 505-672-3861 x 517:

Books:

Children of the Clay
Here, Now, and Always
Pueblo Girls
Pueblo Boy
Pueblos of the Rio Grande
Southwestern Indian Ceremonials
Southwestern Indian Pottery
Southwestern Indian Tribes

See full book citation information under Resources, last page of lesson plan

BACKGROUND

For centuries, there were settlements of Ancestral Pueblo people in parts of what are now New Mexico, Colorado, Utah, Arizona, and Nevada. Over the years it was not unusual for groups to move from place to place.

At Bandelier, beginning in the 1100s, villages were built all over the mesa tops and in several canyons. At first people were mostly living in small settlements consisting of only a few homes, but by the 1400s they had gathered into fewer but larger villages, with scores or hundreds of rooms. By the mid-1500s everyone had moved on, settling in new locations nearby. Some groups joined other already-established villages, including San Ildefonso and Cochiti..

The arrival of the Spanish in the 1500s led to many changes in the life of the pueblos. The Spanish wanted to be able to administer the pueblos in order to get taxes and labor, and required that groups remain in their locations rather than periodically moving. European diseases killed large percentages of people in many villages. The Pueblo Rebellion in 1680 led to some villages being emptied, and in the changes in its wake several villages were begun. Many anthropologists believe that there were around 140 pueblo villages at the beginning of the 1500s; by the beginning of the twentieth century there were less than 25.

Today, there are nineteen pueblos in New Mexico, including those along the Rio Grande and its tributaries, and Zuni, which is south of Gallup. In addition there are the Hopi towns in Arizona and Isleta del Sur outside of El Paso, Texas. Some of these pueblos, such as San Ildefonso and Taos, have remained in basically the same place for 800 years or more.

In 1880 Adolph Bandelier (the anthropologist for whom the monument was named) was just beginning his studies of Southwestern peoples, and he worked for some time at Cochiti Pueblo. Some of the Cochiti people offered to take him to see the place where their ancestors had lived, and guided him to Frijoles Canyon. They had held onto the tradition of their link to this place and other nearby sites for hundreds of years, and it is still strong today. People of San Felipe and Santo Domingo Pueblos also consider themselves connected to Frijoles and some of the other Ancestral Pueblo sites in Bandelier. Zuni people maintain a close tie to certain places in what is now the park. The people of San Ildefonso and Santa Clara Pueblos know that the people who lived in the detached part of Bandelier, Tsankawi, are related to them.

National Park staff value and respect the links that present-day Pueblo people have with the area that is now Bandelier, and have regular meetings to consult with pueblo representatives about many aspects of managing the park. The six

pueblos mentioned above are particularly involved in these consultations due to their close ties, and are known as the "affiliated pueblos." Other pueblos are welcomed at the consultation meetings, and they also consider those six to be the most closely related to Bandelier.

There is an old tradition that Frijoles Canyon was the dividing line between groups that spoke Tewa and those who spoke Keres. Tsankawi is north of that line, and the people of San Ildefonso and Santa Clara do speak Tewa. Frijoles Canyon is on, or south of, that line, and the people of Cochiti, San Felipe, and Santo Domingo do speak Keres. Zuni is much farther away, the people there speak Zuni, and their connection to Bandelier seems related to particular special places more than to ancestral settlements.

VOCABULARY

Affiliated: the six pueblos which consider themselves and their ancestors most closely connected with Bandelier National Monument

Cochiti Pueblo: Keres-speaking pueblo along the Rio Grande just south of Bandelier; often considered the home of the present-day people most closely related to the inhabitants of the large villages in Frijoles Canyon and to the south.

Consultation: to ask someone for their opinion, or gain understanding from someone else's knowledge; Bandelier has consultation meeting with Pueblo groups related to the park

Customs: traditional ways of doing things

Hopi: language spoken at the Hopi villages in northern Arizona

Keres: language spoken at Cochiti, Santo Domingo, San Felipe, Santa Ana, Zia, and Acoma.

Rio Grande: the largest river in New Mexico; many present-day pueblos are located along it

San Felipe Pueblo: Keres-speaking pueblo along the Rio Grande south of Cochiti, with long traditions of being connected to the ancestral towns in Bandelier

San Ildefonso Pueblo: Tewa-speaking pueblo along the Rio Grande near Pojoaque; they consider themselves to be the home of the present-day people most closely related to the inhabitants of the Tsankawi section of Bandelier

Santa Clara Pueblo: Tewa-speaking pueblo along the Rio Grande near San Ildefonso and Espanola; they also consider themselves to be related to the inhabitants of Tsankawi

Santo Domingo Pueblo: Keres-speaking pueblo along the Rio Grande north of San Felipe and south of Cochiti; they consider themselves to be related to the inhabitants of the main section of Bandelier

Tiwa, Tewa, Towa: languages in the Tanoan group, related but not mutually intelligible. Tiwa is spoken in Taos, Picuris, Isleta, and Sandia. Tewa is spoken at Oke Owinge (formerly known as San Juan), Nambe, Santa Clara, San Ildefonso, Pojoaque, and Tesuque. Towa is spoken only at Jemez.

Tradition: the way a particular group of people chooses to do something, often passed down through many generations

Zuni Pueblo: Zuni-speaking pueblo south of Gallup which still maintains strong connections to certain locations in Bandelier

Zuni: Language spoken only at Zuni Pueblo, and unrelated to any other known language

PRE-EVALUATION AND POST-EVALUATION:

Pre-Evaluation:

1. Draw a simple map of New Mexico on the board or on a flipchart sheet (or do it as part of Activity 1, below), showing the Rio Grande, Albuquerque, Santa Fe, and the town your school is in. Ask the students to name as many present-day pueblos as they can, and locate them on the map.

2. As a class, make a list of things the students know, or think they know, about present-day pueblos and Pueblo people. Save the list for use later.

Post-Evaluation:

1. Review the map, making additions or changes depending on what the students have learned.

2. Review the list, making additions or changes depending on what the students have learned.

PROCEDURES: ACTIVITIES TO CHOOSE FROM

1A. Post a large map of New Mexico, and as a whole-class activity determine and mark the location of each of the current pueblos in the state. Divide the class into groups. Assign each group a modern-day pueblo affiliated with

Bandelier – San Ildefonso, Santa Clara, Cochiti, San Felipe, Santo Domingo, and Zuni—and/or any other pueblo/s that have connections to someone in the class. Have each group use references such as the books listed under "Materials" and "Resources" to identify things that are characteristic of each pueblo. Use the worksheet at the end of this lesson plan to assist students with finding distinctive aspects of each; depending on time available, you may want to use some, rather than all, of the questions. In addition, answers to some questions may not be available for some pueblos.

1B. If possible, have one or more present-day Pueblo people come to talk with the class about their pueblo and current customs, and answer questions. Have the group that is studying that pueblo prepare a list of questions ahead of time; go over them with the class and see if there are others that should be added, and ask the speaker if they would like to have a copy before the visit. You may find it useful to look at Activity 2 in the lesson plan "Ethnography - What Can We Learn From People Living Today" and consider the concerns elaborated there about asking questions of a Pueblo speaker.

2. Have each group teach the class about their pueblo when they have completed their research. At the start of their presentation, have each group point out the location of their assigned pueblo on the map.

3A. Following the presentations, lead a discussion about cultural identity. To help the students understand the idea and importance of cultural identity, you may want to have them explore the elements that make up what they consider as their own cultural identity. Then have them give examples of things that create the cultural identity for Pueblo people past and present, and have each group add what is distinctive about the pueblo they studied.

3B. Have the students discuss things that might make it difficult to maintain a unique cultural identity in today's world. Invite a Pueblo representative to discuss the things that they think challenge their cultural identity (combine with 1B above) and what their pueblo is doing to meet the challenges.

3C. Brainstorm ideas for more things that people can do to help maintain their cultural identities, or things everyone can do to help others do so (learning about other cultures, respecting others' traditions, visiting cultural sites, learning about your own family traditions, etc).

EXTENSION IDEAS

Host a cultural appreciation day in your class or at your school. Students share family traditions through art, dance, dress, food, stories, etc. If your class or school usually celebrates one of the holidays that falls during the school year (Halloween, Easter, etc) consider having a multi-cultural celebration,

incorporating various groups' customs for that holiday or season. To avoid stereotypes, it may be useful to only include customs of groups that are actually represented in your class or school and/or that someone has personal knowledge and experience with.

RESOURCES

Books:

Bahti, Tom and Bahti, Mark, *Southwestern Indian Ceremonials*, KC Publications, 1997 (ISBN 088714-096-3) ***

Bahti, Tom and Bahti, Mark, *Southwestern Indian Arts and Crafts*, KC Publications, 1999 (ISBN 0-88714-095-5) ***

Bahti, Tom and Bahti, Mark, *Southwestern Indian Tribes*, KC Publications, 2003. (ISBN 088714-097-1) ***

Gibson, Daniel, *Pueblos of the Rio Grande, A Visitor's Guide*. Rio Nuevo Publishers, Tucson, AZ, 2001 (ISBN 1-887896-26-0) ***

Hucko, Bruce, *Southwestern Indian Pottery*, KC Publications, 1999. (ISBN 088714-148-X) ***

Keegan, Marcia, *Pueblo Girls, Growing Up in Two Worlds*. Clear Light Publishers, Santa Fe, NM, 1999 (ISBN 1-57416-020-6) *** (the girls are Santa Clara)**

Keegan, Marcia, *Pueblo Boy*, Cobblehill Books, New York, 1991 (ISBN 0-525-65060-1) **** (he's San Ildefonso)

Swentzell, Rina, *Children of Clay, A Family of Pueblo Potters*, Lerner Publications, Minneapolis, 1992 (ISBN 0-8225-9627-X) *** (the potters are Santa Clara)**

*** Available for loan from Bandelier; 505-672-3861 x 517

**** Out of print at this writing, limited number available from Bandelier, and may be available through interlibrary loan

Web information:

Bandelier National Monument website: www.nps.gov/band

Bandelier museum collection website: www.cr.nps.gov/museum/exhibits/band (or go to the Bandelier website and click on the collection icon)

Indian Pueblo Cultural Center, Albuquerque: www.indianpueblo.org This site includes a separate page for each of the Pueblos in New Mexico, and can be very useful for approaching the questions in Question 1A (worksheet below)

Hopi Tribal Site: www.hopi.nsn.us

Zuni Tribal Site: www.experiencezuni.com

PUEBLO STUDY WORKSHEET

1. Pueblo name:

2. Name in their language, if different:

3. Language spoken:

4. Location (show on New Mexico map and tell if there are towns or landmarks nearby)

5. Describe a craft that is special to this pueblo (pottery, baskets, jewelry, etc) and show a drawing or photograph (or real item if you have one).

6. Name and describe a type of traditional dance done at this pueblo (show a photo or painting if possible) and tell when it is held.

7. Give the name and describe a type of traditional clothing worn at this pueblo (if possible, show a photo or painting, or make a drawing)

8. Find a photo or drawing of the pueblo and show or describe it to the class (some pueblos do not permit photos or drawing)

9. Share something else special about this pueblo

Basic information on the 19 present-day pueblos of New Mexico

Acoma (AA-koh-mah)
Location: west of Albuquerque Language: Keres
Best known craft(s): Pottery with complex, fine-lined black designs on bright white

Cochiti (KOH-chi-tee)
Location: between Santa Fe and Albuquerque Language: Keres
Best-known craft(s): drums, off-white pottery with black and red decorations, jewelry, especially shell beads

Isleta (is-LEH-tah)
Location: south of Albuquerque Language: Southern Tiwa
Best-known craft(s): some pottery, jewelry, clothing, painting

Jemez (HAY-mez)
Location: along the Jemez river, north of Rio Rancho Language: Towa
Best-known crafts: buff and red pottery with black designs; sculpture (home of Cliff Fragua; his sculpture of Popay is in Washington DC); music (Grammy-winning Black Eagle singers)

Laguna (la-GOON-ah)
Location: west of Albuquerque Language: Keres
Best-known craft(s): pottery

Nambé (nahm-BAY)
Location: near Chimayo, north of Santa Fe Language: Tewa
Best-known craft(s): pottery, especially micaceous vessels

Picuris (PEA-cur-EES)
Location: south of Taos Language: northern Tiwa
Best-known craft(s): micaceous pottery

Pojoaque (poh-HWA-key)
Location: north of Santa Fe Language: Tewa
Best-known craft(s): pottery, jewelry

Sandia (san-DEE-uh)
Location: between Albuquerque and Bernalillo Language: Keres
Best-known craft(s): pottery, baskets

San Felipe (san fay-LEE-pay)
Location: north of Albuquerque Language: Keres
Best-known craft(s): pottery, jewelry

San Ildefonso (san eel-day-FOHN-sew)
Location: north of Santa Fe Language: Tewa
Best-known craft(s): world-famous matte-on-black pottery

Oke Owinge (OH-kay OH-oh-WIN-gay, formerly San Juan)
Location: north of Española Language: Tewa
Best-known craft(s): redward pottery

Santa Ana (SAN-tuh AN-nuh)
Location: outside Bernalillo Language: Keres
Best-known craft(s): pottery, traditional clothing

Santa Clara (SAN-tuh CLARE-uh)
Location: outside of Española Language: Tewa
Best-known craft(s): matte-on-black, carved black, red, etched, and polychrome pottery

Santo Domingo (SAN-toh doe-MIN-goe)
Location: between Albuquerque and Santa Fe Language: Keres
Best-known craft(s): shell and turquoise jewelry, black-on-buff pottery with red

Taos (TAH-os)
Location: outside the town of Taos Language: northern Tiwa
Best-known craft(s): micaceous pottery; jewelry; music (famed flute-player Robert Mirabal); drums

Tesuque (tuh-SUE-key)
Location: just north of Santa Fe Language: Tewa
Best-known craft(s): pottery

Zia (ZEE-uh)
Location: north of Bernalillo Language: Keres
Best-known craft(s): buff pottery with black designs and red accents

Zuni (ZOO-nee)
Location: south of Gallup Language: Zuni
Best-known craft(s):jewelry, especially silver with shell and stone inlay; carved fetishes; buff pottery with black designs

More information available in: "Pueblos of the Rio Grande – A Visitor's Guide" by Daniel Gibson, Rio Nuevo Publishers, Tucson, 2001.
Available for loan from Bandelier, (505) 672-3861 x 517

Lesson Plan:
Where Did the People From Bandelier Go?

This lesson is intended as a review, summary, or continuation of what students have learned in other lesson plans and perhaps on a field trip. Students find continuity in the culture of the Ancestral and present-day Pueblo people |by comparing and contrasting ancient and contemporary Pueblo customs and traditions.

Location: classroom
Suggested group size: whole class for some activities; small groups for others
Subject(s): social studies, history, language arts, art
Concepts covered: culture, continuity and change, compare and contrast
Written by: Lynne Dominy & Chris Judson, Bandelier National Monument
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Student outcomes: At the end of this activity, students will be able to identify Pueblo customs and items from the Ancestral Pueblo period and now, and ones that have continued from the past into the present.

EDUCATIONAL STANDARDS

New Mexico State Standards

Art
Content Standard 2: Use dance, music, theatre/drama, and visual arts to express ideas.

Visual arts
Grade K-4
1. Identify similarities and differences in the ideas, customs and art of others

Content Standard 6: Show increased awareness of diverse peoples and cultures through visual and performing arts.

Visual arts
Grade K-4
1. Determine the function of various works of art and artifacts within a specific culture.

Language Arts
Grade 4
K-4 Benchmark III-C: Be familiar with aspects of human behavior and man-made and natural environments in order to recognize their impact on the past and present

Social Studies
Strand: History
K-4 Benchmark III-B: Identify and describe the symbols, icons, songs, traditions, and leaders of local, state, tribal, and national levels that exemplify ideals and provide continuity and a sense of community across time.
Grade 4
1. Describe various cultures and the communities they represent, and explain how they have evolved over time.

NATIONAL STANDARDS

Visual Arts
5 - 8 Content Standard 4: Understanding the visual arts in relation to history and cultures
Students describe and place a variety of art objects in historical and cultural contexts

History

Topic 1 Living and Working Together in Families and Communities, now and long ago

Standard 2B Grades K-4: The student understands how communities in North America varied long ago

Grade K-4: Compare and contrast the different ways in which early Hawaiian and Native American peoples such as the Iroquois, the Sioux, the Hopi, the Nez Perce, the Inuit, and the Cherokee adapted to their various environments and created their patterns of community life long ago. (Compare and contrast differing sets of ideas)

Topic 2: The History of Students' Own State or Region

Standard 3 K-4: The people, events, problems, and ideas that created the history of their state

3A: The student understands the history of indigenous peoples who first lived in his or her state or region

Grade K-4: Draw upon data in paintings and artifacts to hypothesize about the culture of the early Hawaiians or native Americans who are known to have lived in the state or region, e.g., the Anasazi of the Southwest, the Makah of the Northwest coast, the Eskimos/Inupiat of Alaska, the Creeks of the Southeast, the Mississippians (Cahokia) or the Mound Builders (Formulate historical questions)

Grade 3-4: Compare and contrast how Native American or Hawaiian life today differs from the life of these same groups over 100 years ago (Compare and contrast differing sets of ideas)

Standard 7: Selected attributes and historical developments of various societies in Africa, the Americas, Asia, and Europe

Grade 3-4: Investigate the ways historians learn about the past if there are no written records (Compare records from the past)

Grade K-4: Compare and contrast various aspects of family life, structures, and roles in different cultures and in many eras with students' own family lives (Compare and contrast)

Geography
As a result of their activities in grades K-12, all students should understand:
K-12.4 Human systems
11. the patterns and networks of economic interdependence on earth' s surface

Social Studies
I. Culture

Early Grades
a. explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns

Middle Grades
a. compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns

c. explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture

English Language Arts

1. Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, class, and contemporary works.

7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.

MATERIALS

Pueblo clothing kit, containing manta dress, kilt, necklaces, earrings, sashes, and photos showing how they are used; available for loan from Bandelier, (505) 672-3861 x 517

Bandelier brochure

Images found on Bandelier collections website:
www.cr.nps.gov/museum/exhibits/band

Reference sheet of drawings from the curriculum newspaper, "Pueblo People Past and Present", and the trailguide

"Meet the Ancestral Pueblo People", found in the curriculum guide
Books: (see full list on Resources list, last page of lesson plan)

BACKGROUND

For centuries, there were settlements of Ancestral Pueblo people in parts of what are now New Mexico, Colorado, Utah, Arizona, and Nevada. Over the years groups moved from one location to another. At Bandelier, villages were built all over the mesa tops and in several canyons. In the 1100s, people were mostly living in small settlements consisting of only a few homes, but by the 1400s they had gathered into fewer but larger villages, with scores or hundreds of rooms. By the mid-1500s everyone had moved away from the mesas and canyons around Bandelier, settling in new locations. Some joined other villages that already existed elsewhere.

Today, there are nineteen pueblos in New Mexico, including those along the Rio Grande and its tributaries, and the Zunis south of Gallup. In addition there are the Hopi towns in Arizona and Isleta del Sur outside of El Paso, Texas. Some of these pueblos, such as San Ildefonso and Taos, have remained in basically the same place for 800 years or more. The pueblos of Cochiti and San Ildefonso consider some of the villages in Bandelier to be ancestral homes, and San Felipe, Santo Domingo, and Zuni also have traditional connections to the area.

When we think of the Ancestral Pueblo people of Bandelier, we think of them leaving here and eventually settling in those closely-related present-day pueblos. Customs vary among the nineteen New Mexico pueblos. So when we want to learn about the lives of the early people of Bandelier, we look at traditions among those who consider themselves most closely linked to the old settlements here.

Due to many years of religious persecution and actions by the dominant culture to try to change the customs of the Pueblo people, many aspects of their beliefs and traditions have become confidential. Many are known only to their own people and seldom or never shared with outsiders. Some aspects of their religious knowledge and activities are only made known to those who are initiated into particular societies or belong to particular families. And as with any group of people, some things are considered too private to discuss with outsiders. So it is not always easy, or even possible, to find out about many aspects of the Pueblo culture. Newer books, written by authors seeking to show respect to the Pueblo people, will of necessity be vague about some things. Older books, whose authors may not have thought about whether it was appropriate to write about certain subjects, may contain more material. However, often much of it is inaccurate, as tribal members sometimes politely gave answers that would please the writer

rather than saying that they were unwilling to discuss certain matters. In recent years, Pueblo people have become more comfortable with expressing their concerns to outsiders. Thus changes are occurring in things like the use of the terms “Anasazi” “abandoned” “ruins” etc, as the Pueblo people have let others know that those terms are inappropriate and sometimes even offensive.

Various pueblos and Pueblo people have differing degrees of openness to outsiders. This may be expressed in such ways as not allowing photography within the village, or not allowing tribal members to do demonstrations of crafts or dances outside of the pueblo. At this writing, some villages, such as Taos, Acoma, and San Ildefonso, welcome visitors. Others, such as Jemez, Zia, and Santa Ana, allow them only during dances that are open to the public. Some potters and other craftspeople enjoy discussing the symbols they use on their work, while others would prefer not to. Explanations of the meanings of dances, songs, or clothing may be minimal or obscure.

For years secrecy was a means of maintaining customs in the face of pressure from the outside to abolish them. Today there is a new problem, as the Pueblos see the effects of outsiders who wish to exploit their culture for their own gain. Non-native potters may copy pueblo styles or motifs. Photographers and artists sell pictures of pueblo subjects with none of the profit benefiting the pueblos themselves. Non-pueblo self-styled spiritual teachers charge large fees to introduce seekers to Native religious paths. Everybody seems to want to make a movie or write a book.

Bandelier became a National Monument in 1916 primarily to preserve the former habitations of Ancestral Pueblo people. The curriculum materials were produced to help students of all backgrounds to gain understanding of those people and their ways of life. The Bandelier rangers who produced the curriculum newspaper, trailguide, and lesson plans did so in consultation with Pueblo people on the park staff, as well as tribal representatives who are part of the ongoing consultation process with the park. They asked that the materials not talk about particular topics, not include pictures of certain things, and not use certain words. The writing was done within those guidelines, showing respect for the Pueblos and their ancestors.

VOCABULARY

Acoma Pueblo: Keres-speaking pueblo atop a tall mesa west of Albuquerque

Cochiti Pueblo: Keres-speaking pueblo along the Rio Grande just south of Bandelier; often considered the home of the present-day people most closely related to the inhabitants of the large villages in Frijoles Canyon and to the south.

Customs: traditional ways of doing things

Jemez: Towa-speaking pueblo along the Jemez River, northeast of Albuquerque

Rio Grande: the largest river in New Mexico; many present-day pueblos are located along it

San Ildefonso Pueblo: Tewa-speaking pueblo along the Rio Grande near Pojoaque; they consider themselves to be the home of the present-day people most closely related to the inhabitants of the Tsankawi section of Bandelier

Taos Pueblo: Tiwa-speaking pueblo, most northern along the Rio Grande

Tradition: the way a particular group of people chooses to do something, often passed down through many generations

Zuni Pueblo: Zuni-speaking pueblo south of Gallup which still maintains strong connections to certain locations in Bandelier

PRE- AND POST-EVALUATION

Pre-Evaluation:

ave the class make up their own list of things that are different between the lives of Ancestral Pueblo people and those of Pueblo people today.

Post-Evaluation:

Have the class review the list and see if they wish to add, subtract, or change anything.

PROCEDURES: ACTIVITIES TO CHOOSE FROM

Activity 1.

As individuals, small groups, or as a whole class, have the students look at pictures in the books listed in Resources, or similar ones, to see what elements of present-day Pueblo culture have continued since Ancestral Pueblo times and/or what they find that is different from life in Ancestral Pueblo times. In trying to find the Ancestral Pueblo culture within contemporary Pueblo culture, remember that the list of things available to the people now, but not prior to Spanish contact, includes:

horses,	wheat,	metals,	written language,		
milk cows,	chiles,	glass,	books,	beef cows,	melons,
cars,	christianity,	churches,	saints' days,	goats,	hay,
phones,	cats,	peas,	eyeglasses,	computers,	chickens,
tomatoes,	plastic,	blue jeans,	pigs,	fruit trees,	carrots,
t-shirts,	sheep,	lettuce,	potatoes,	tennies	

non-religious leaders such as governors,

To begin this review activity, you might want to have the class make up their own list of things that present-day people have that the Ancestral Pueblo people didn't, and just use the list above as a reference in case arguments come up over particular items.

To find things that have stayed the same, you may have to think about ideas like families working together, older people teaching younger people, and everyone helping each other. You may also want to consider things like: footwear, pottery, tools, structures, crops, jewelry, clothing, designs, activities

Have each student or group choose several pictures and tell some things that have changed and/or some things that have stayed the same. Is anything a surprise?

Some books about present-day Pueblo culture: (full citations under Resources)

- Pueblo Girls (Santa Clara)**
- Children of the Clay (Santa Clara)**
- Pueblo Boy (San Ildefonso) ****
- Southwestern Indian Tribes - the most useful pictures are on pages 6, 5, 14, 21, 25, 27, and 30**
- Southwestern Indian Pottery - the most useful pictures are on pages 14, 17, 19, 30-33, 59-61**
- Southwestern Indian Ceremonials**
- Pueblos of the Rio Grande- the most useful pictures are on pages 13, 18, 35, 45, 47, 64, 79, 84. 87, and 92**
- Paintings by Pablita Velarde of pueblo life in the early 1940s, found in the Bandelier collections website, www.cr.nps.gov/museum/exhibits/band (see full list under Resources)

** Books available for loan from Bandelier, contact (505) 672-3861 x 517
**** Out of print at this writing; limited number available for loan from Bandelier, or may be available through interlibrary loan

1B. Divide the class into 2 groups. One group will represent the Ancestral Pueblo period of time and the other will represent the present Pueblo period. A student in each group is assigned an item, such as a necklace. They then write a story from the perspective of that item, or the perspective of the person

who made or owned the item, during the assigned time period, answering at least three of the following questions:
1) how was it made
2) where it came from
3) how is it used
4) who is using it
5) what is happening around it

Students representing the same items from different time periods pair up and present both of their stories. The class discusses how the stories are similar or different because different time periods. They then discuss the concept of continuity across time. Some possible items might include:
houses, clothing, farming tools, jewelry: necklace/bracelet/earrings,
shoes, dishes, lunch, hunting weapons

1C. In small groups or as individuals, have the students draw two pictures of a particular activity, one as it might have been done in Ancestral Pueblo times, and one as it might be done by Pueblo people today.

Possible activities might include: eating a meal, travelling, building a house, keeping warm in winter, preparing a meal, learning a skill, getting food, getting clothes

EXTENSION IDEAS

1. As a class or in small groups, have the students write a story about a day in the life of a boy or girl their age in Ancestral Pueblo times in Frijoles Canyon, or about the day(s) when they were moving away from the canyon and establishing new homes.

2. Have each student make a drawing of themselves as they might have looked and dressed in Ancestral Pueblo times, doing something they would have enjoyed from those times. The drawings could be incorporated into a large mural including all the students from the class, or a series of small murals by small groups, or just posted as individual pieces. If the students visited an Ancestral Pueblo site, ask them to make the background look, as much as they can, like the place they visited on their field trip. Consider having them include typical buildings for that time and place.

Note: For information on Ancestral Pueblo clothing, look at the lesson plan, "What Would They Wear"; for structures, look at the lesson, "Be An Ancestral Pueblo Architect", especially Extension Activity 1; for pottery making, "Making Pueblo Pottery".

RESOURCES

Books:

Bahti, Tom and Bahti, Mark, *Southwestern Indian Ceremonials*, KC Publications 1997 (ISBN 088714-096-3) ***

Bahti, Tom and Bahti, Mark, Southwestern Indian Arts and Crafts, KC Publications, 1999 (ISBN 0-88714-095-5) ***

Bahti, Tom and Bahti, Mark, *Southwestern Indian Tribes*, KC Publications, 2003. (ISBN 088714-097-1) ***

Gibson, Daniel, *Pueblos of the Rio Grande, A Visitor's Guide*. Rio Nuevo Publishers, Tucson, AZ, 2001 (ISBN 1-887896-26-0) ***

Hucko, Bruce, *Southwestern Indian Pottery*, KC Publications, 1999. (ISBN 088714-148-X) ***

Keegan, Marcia, Pueblo Girls, *Growing Up in Two Worlds*. Clear Light Publishers, Santa Fe, NM, 1999 (ISBN 1-57416-020-6) *** (the girls are Santa Clara)**

Keegan, Marcia, *Pueblo Boy*, Cobblehill Books, New York, 1991 (ISBN 0-525-65060-1) **** (he's San Ildefonso)

Swentzell, Rina, *Children of Clay, A Family of Pueblo Potters*, Lerner Publications, Minneapolis, 1992 (ISBN 0-8225-9627-X) *** (the potters are Santa Clara)

*** Available for loan from Bandelier; 505-672-3861 x 517

**** Out of print at this writing; limited number available for loan from Bandelier, or may be available through interlibrary loan

Drawings in the STUDENT RESOURCE sheet at the end of this lesson

Web information:

Bandelier website: www.nps.gov/band

Bandelier museum collection website:items:
www.cr.nps.gov/museum/exhibits/band
(or go to the Bandelier website and click on the collections icon)

Useful images:*Paintings of pueblo life in the 1940s by Pablita Velarde; most useful images are 627, 645, 647, 654, 664, 667, 670, 674, 676, 706, 1739b, 3098
* Photos of Ancestral and present-day pottery